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Display Control Unit Circuit Check		IPDM E/R Circuit Check	
Data Link Connector Circuit Check		CAN Communication Circuit Check	
BCM Circuit Check		IPDM E/R Ignition Relay Circuit Check	
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IPDM E/R Circuit Check		IPDM E/R Ignition Relay Circuit Check	
CAN Communication Circuit Check		CAN SYSTEM (TYPE 9)	
IPDM E/R Ignition Relay Circuit Check		Component Parts and Harness Connector Locatio	
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PRECAUTIONS PFP:00001

Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Man-

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

Precautions When Using CONSULT-II

UKS001R6

When connecting CONSULT-II to data link connector, connect them through CONSULT-II CONVERTER.

CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

CHECK POINTS FOR USING CONSULT-II

- Has CONSULT-II been used without connecting CONSULT-II CONVERTER on this vehicle?
- If YES, GO TO 2.
- If NO, GO TO 5.
- 2. Is there any indication other than indications relating to CAN communication system in the self-diagnosis results?
- If YES, GO TO 3.
- If NO, GO TO 4.
- Based on self-diagnosis results unrelated to CAN communication, carry out the inspection.
- 4. Malfunctions may be detected in self-diagnosis depending on control units carrying out CAN communication. Therefore, erase the self-diagnosis results.
- 5. Diagnose CAN communication system. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

Precautions For Trouble Diagnosis CAN SYSTEM

UKS0010G

- Do not apply voltage of 7.0V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0V or less.
- Be sure to turn ignition switch off and disconnect negative battery terminal before checking the circuit.

PRECAUTIONS

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Precautions For Harness Repair CAN SYSTEM

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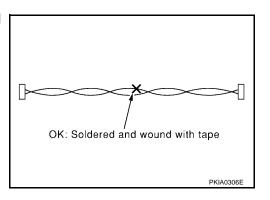
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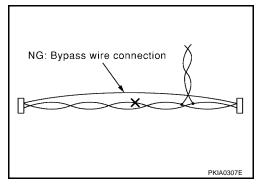
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Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in)]



Do not perform bypass wire connections for the repair parts.
 (The spliced wire will become separated and the characteristics of twisted line will be lost.)



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TROUBLE DIAGNOSES WORK FLOW

PFP:00004

When Displaying CAN Communication System Errors WHEN A MALFUNCTION IS DETECTED BY CAN COMMUNICATION SYSTEM

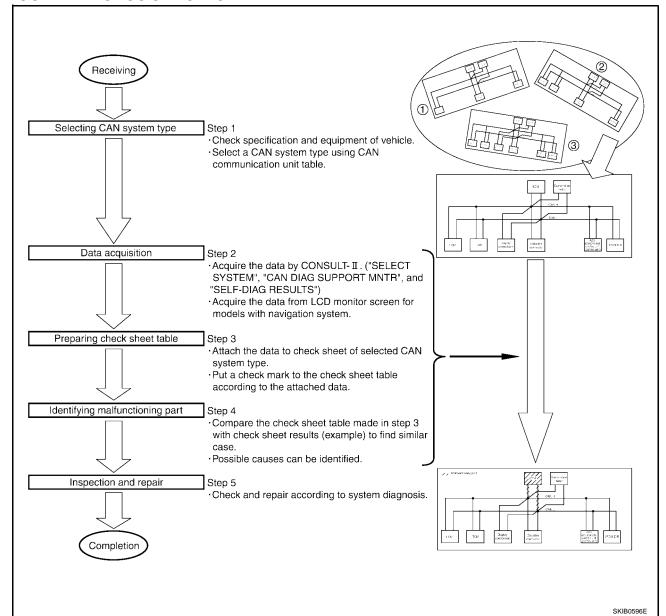
UKS001YO

- CAN communication line is open. (CAN H, CAN L, or both)
- CAN communication line is shorted. (Ground, between CAN lines, or other harnesses)
- The areas related to CAN communication of unit is malfunctioning.

WHEN A MALFUNCTION IS DETECTED EXCEPT CAN COMMUNICATION SYSTEM

- Removal and installation of parts: When the units that perform CAN communication or the sensors related to CAN communication are removed and installed, malfunction may be detected (or DTC other than CAN communication may be detected).
- Fuse blown out (removed): CAN communication of the unit may be stopped at such time.
- Low voltage: If the voltage decreases because of battery discharge when IGN is ON, malfunction may be detected by self-diagnosis according to the units.

TROUBLE DIAGNOSIS FLOW CHART



- Step 1: Refer to LAN-8, "SELECTING CAN SYSTEM TYPE (HOW TO USE SPECIFICATION TABLE)".
- Step 2: Refer to <u>LAN-9</u>, "ACQUISITION OF DATA BY CONSULT-II".
- Step 3: Refer to <u>LAN-10</u>, "HOW TO USE CHECK SHEET TABLE".
- Step 4: Refer to LAN-11, "Example of Filling in Check Sheet When Initial Conditions Are Reproduced".
- Step 5 : Check and repair according to system diagnosis.

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Diagnosis Procedure SELECTING CAN SYSTEM TYPE (HOW TO USE SPECIFICATION TABLE)

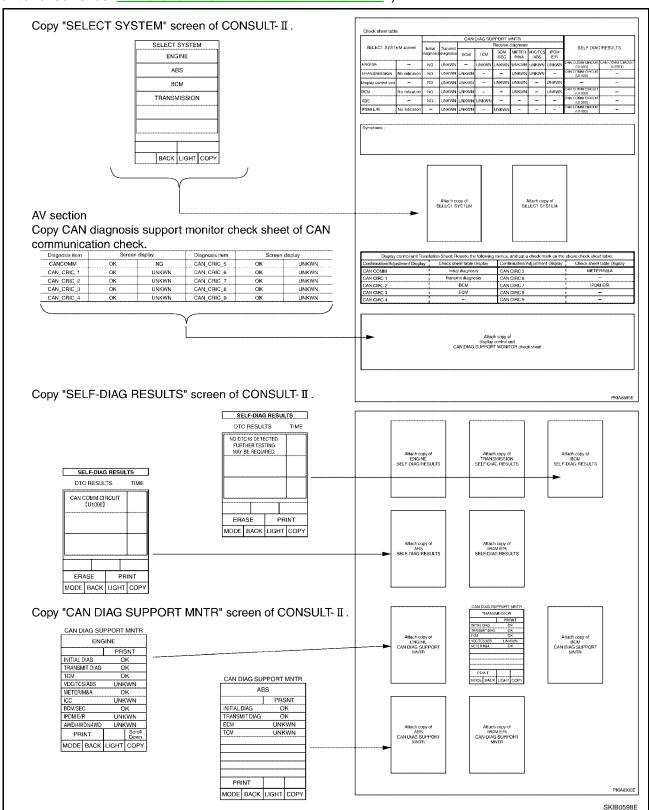
UKS001YP

Determine CAN system type from the equipment of the vehicle to select applicable check sheet.

Go to CAN system, when sele	ecting yo	ur CA	N sys	stem	ı typ	e fro	m th	e follo	wing	g tab	le.				_
Body type							Se	dan							<u> </u>
Axie							2\	ND							
Engine	QR2	QR25DE		VQ35D		:		QR2	QR25DE			VQ35DE			Check basic specification of the vehicle
Transmission				M/T			4A/T 5A/T		4A/T 5A/T		5A/T			Check basic specification of the vehicle	
Brake control	NO ABS		NO ABS	ΑĐ	38	Т	cs	NO ABS	AE	38	ABS	TCS	ABS	TCS	J
Navigation system					×		×			×			×	×	Select " x " if it is model with navigation
CAN system type					2	3	4	5		6	7	8	9	10	system.
CAN system trouble diagnosis		2.85	XX.		80%: 80%:	2.2a 2.X.	XX:	XX.X	X.	AA: XX.	XX:	22. 22.	23.5 23.5	XX:	Which number is selected when sequentially selecting from the top of
× : Applicable															the specification table? The number is "CAN system type" of the applicable vehicle. In the case of this example: It corresponds to type 10.

ACQUISITION OF DATA BY CONSULT-II

Attach the data acquired by CONSULT-II on the check sheet determined according to CAN system type.(For display control unit, transfer the data from the LCD monitor screen of the vehicle to the CAN diagnosis support monitor check sheet <u>AV-131</u>, "CAN Communication Line Check".)



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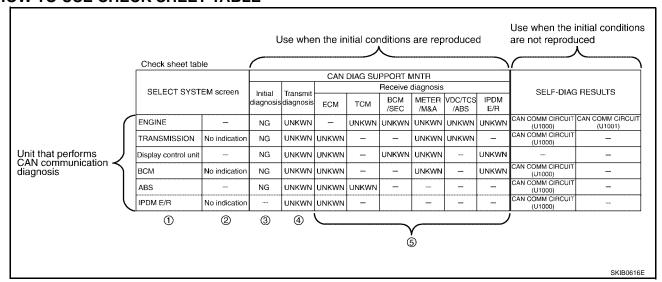
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HOW TO USE CHECK SHEET TABLE



- 1. Unit names displayed on CONSULT-II
- 2. "No indication": Put a check mark to it if the unit name described in step 1 is not displayed on "SELECT SYSTEM" screen of CONSULT-II. (Unit communicating with CONSULT-II via CAN communication line)

 "-": Column not used (Unit communicating with CONSULT-II excluding CAN communication line)
- 3. "NG": Display "NG" when malfunction is detected in the initial diagnosis of the diagnosed unit. Replace the unit if "NG" is displayed.
 - "-": Column not used (Initial diagnosis is not performed.)
- 4. "UNKWN": Display "UNKWN" when the diagnosed unit does not transmit the data normally. Put a check mark to it if "UNKWN" is displayed on CONSULT-II.
- 5. "UNKWN": Display "UNKWN" when the diagnosed unit does not receive the data normally. Put a check mark to it if "UNKWN" is displayed on CONSULT-II.
 - "-": Column not used (It is not necessary for CAN communication trouble diagnosis.)

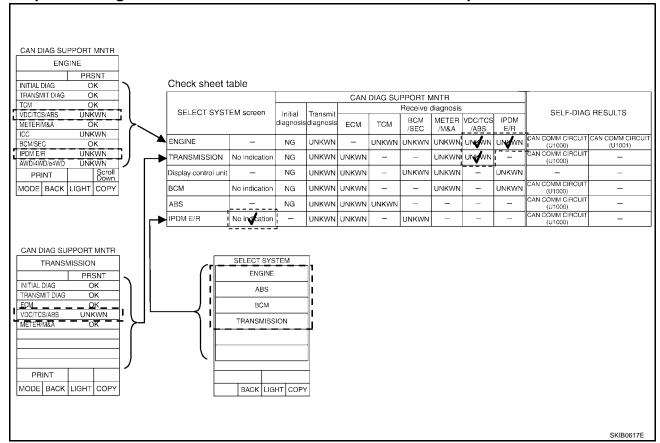
NOTE:

CAN communication diagnosis checks if CAN communication works normally. (Contents of data are not diagnosed.)

- Refer to <u>LAN-11</u>, "<u>Example of Filling in Check Sheet When Initial Conditions Are Reproduced</u>" when the initial conditions are reproduced.
- Refer to <u>LAN-14</u>, "<u>Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced</u>" when the initial conditions are not reproduced.

А





 Put a check mark to "No indication" if some of unit names listed on the column of diagnosis system selection screen of a check sheet table are not displayed on "SELECT SYSTEM" screen attached to the check sheet.

NOTE:

Put a check mark to "No indication" of IPDM E/R because IPDM E/R is not displayed on "SELECT SYSTEM" screen.

2. Confirm the unit name that "UNKWN" is displayed from the copy of "CAN DIAG SUPPORT MNTR" screen of "ENGINE" attached to the check sheet, and then put a check mark to the check sheet table.

NOTE:

In "CAN DIAG SUPPORT MNTR" screen, "UNKWN" is displayed on "VDC/TCS/ABS", "ICC", "IPDM E/R" and "AWD/4WD/e4WD". But put a check mark to "VDC/TCS/ABS" and "IPDM E/R" because "UNKWN" is listed on the column of reception diagnosis of the check sheet table.

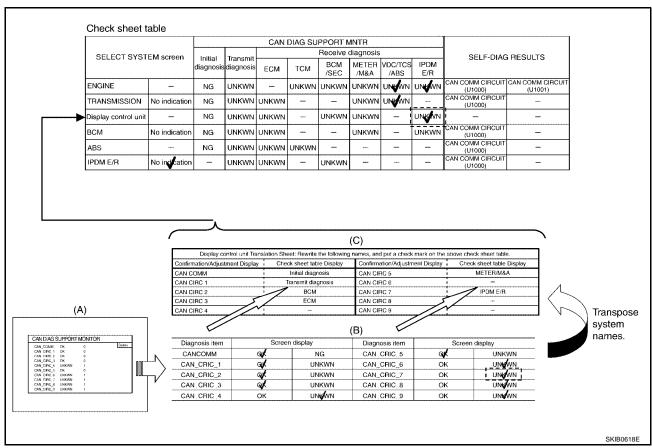
3. Confirm the unit name that "UNKWN" is displayed on the copy of "CAN DIAG SUPPORT MNTR" screen of "TRANSMISSION" as well as "ENGINE". And then, put a check mark to the check sheet table.

NOTE:

• For "TRANSMISSION", "UNKWN" is displayed on "VDC/TCS/ABS". Put a check mark to it.

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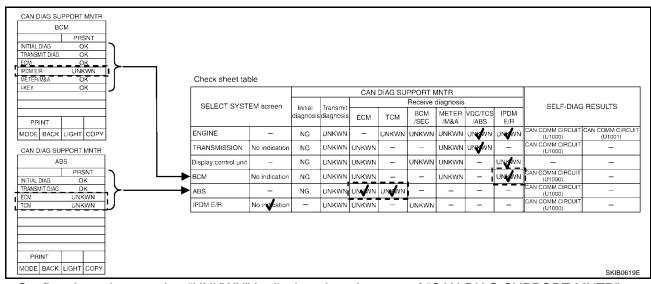
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4. Display control unit reads the CAN diagnosis support monitor check sheet (B) AV-131, "CAN Communication Line Check" transferred from the LCD monitor screen(A). The transferred CAN diagnosis support monitor check sheet is copied to the Check sheet, and conversed according to the Display control unit Translation Sheet. And then put a check mark to the check sheet table.

NOTE:

In the CAN diagnosis support monitor check sheet (B), check marks are put to "CAN CIRC 4", "CAN CIRC 6", "CAN CIRC 7", "CAN CIRC 8" and "CAN CIRC 9". But, in the column of the check sheet table indication in Display control unit Translation Sheet (C), "IPDM E/R" is listed only for "CAN CIRC 7". Therefore, put a check mark to "IPDM E/R" because "UNKWN" is listed on the column of reception diagnosis of the check sheet table.



5. Confirm the unit name that "UNKWN" is displayed on the copy of "CAN DIAG SUPPORT MNTR" screen of "BCM" and "ABS" as well as "ENGINE". And then, put a check mark to the check sheet table.

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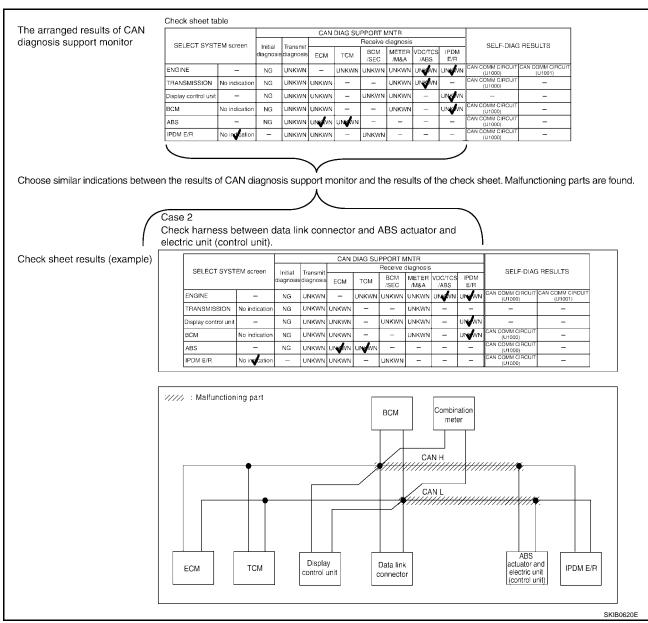
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NOTE:

- For "BCM", "UNKWN" is displayed on "IPDM E/R". Put a check mark to it.
- For "ABS", "UNKWN" is displayed on "ECM" and "TCM". Put a check mark to it.



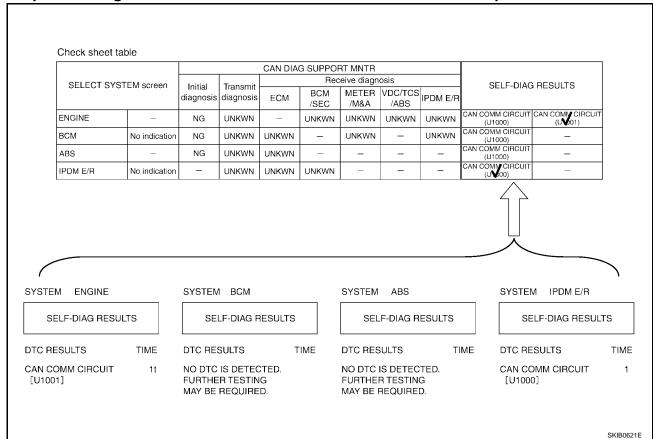
NOTE:

There is a check mark in VDC/TCS/ABS of "A/T" in "The arranged results of CAN diagnosis support monitor" sheet. Also, there is a mark of "-" both in VDC/TCS/ABS of "A/T" in the check sheet results (example). Therefore, neglect a check mark both in VDC/TCS/ABS of "A/T" in "The arranged results of CAN diagnosis support monitor" sheet.

- Perform system diagnosis for possible causes identified.
- Perform diagnosis again after inspection and repair. Make sure that repair is completely performed, and then end the procedure.

Start CAN system trouble diagnosis if this procedure can be confirmed. <u>LAN-21</u>, "CAN Communication Unit"

Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced



 See "SELF-DIAG RESULTS" of all units attached to the check sheet. If "CAN COMM CIRCUIT", "CAN COMM CIRCUIT [U1000]" or "CAN COMM CIRCUIT [U1001]" is displayed, put a check mark to the applicable column of self-diagnostic results of the check sheet table.

NOTE:

- For "ENGINE", "CAN COMM CIRCUIT [U1001]" are displayed. Put a check mark to it.
- For "BCM", "NO DTC IS DETECTED" is displayed. Do not put a check mark to it.
- For "ABS", "NO DTC IS DETECTED" is displayed. Do not put a check mark to it.
- For "IPDM E/R", "CAN COMM CIRCUIT [U1000]" is displayed. Put a check mark to it.

[CAN]

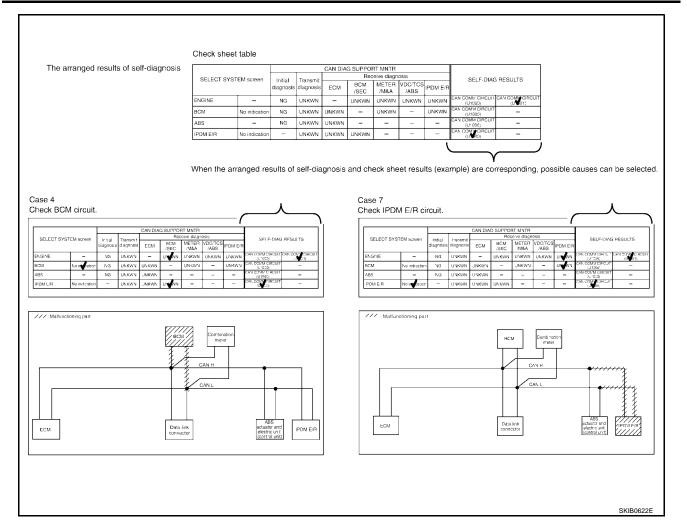
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NOTE:

There is a case that some of "CAN DIAG SUPPORT MNTR" and "SELF-DIAG RESULTS" are not needed for diagnosis. In the case, "UNKWN" and "CAN COMM CIRCUIT(U1000)" in "Check sheet results (example)" change to "-". Then, ignore check marks on the Check sheet table.

For the selected possible causes, it is expected that malfunctions have been found in the past.

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CAN Diagnostic Support Monitor DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR ECM

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(Example)	CAN DIAG SUPPORT MNTR	CAN DIAG SUPPORT MNTR
. ,	ENGINE	ENGINE
	PRSNT	PRSNT
	INITIAL DIAG OK	TRANSMIT DIAG OK
	TRANSMIT DIAG OK	TCM OK
	TCM OK	VDC/TCS/ABS OK
	VDC/TCS/ABS OK	METER/M&A OK
	METER/M&A OK	ICC UNKWN
	ICC UNKWN	BCM/SEC OK
	BCM/SEC OK	IPDM E/R OK
	IPDM E/R OK	AWD/4WD/e4WD UNKWN
	AWD/4WD/e4WD UNKWN	EPS UNKWN
	PRINT Scroll Down	PRINT Scroll Up
	MODE BACK LIGHT COPY	MODE BACK LIGHT COPY SKIB0591E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	TCM	Make sure of normal reception from TCM.	OK/UNKWN
	VDC/TCS/ABS	Make sure of normal reception from ABS actuator and electric unit (control unit).	OK/UNKWN
ENGINE	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN
	ICC	ICC is not diagnosed.	UNKWN
	BCM/SEC	Make sure of normal reception from BCM.	OK/UNKWN
	IPDM E/R	Make sure of normal reception from IPDM E/R.	OK/UNKWN
	AWD/4WD/e4WD	AWD/4WD/e4WD is not diagnosed.	UNKWN
	EPS	EPS is not diagnosed.	UNKWN

Display Results (Present)

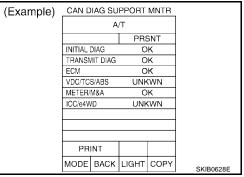
OK : NormalNG : Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

[CAN]

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR TCM

4A/T models



"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
A/T	ECM	Make sure of normal reception from ECM.	OK/UNKWN
AVI	VDC/TCS/ABS	VDC/TCS/ABS is not diagnosed.	UNKWN
	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN
	ICC/e4WD	ICC/e4WD is not diagnosed.	UNKWN

Display Results (Present)

• OK : Normal

• NG : Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

5A/T models

(Example)	CAN D	IAG SU	MNTR		
	-	TRANS			
	INITIAL	DIAG			
	TRANSM	/IT DIAG	С	K	
	ECM				
	VDC/TCS/ABS OK			K	
	METER/	M&A	С	K	
	PR	INT			
	MODE	BACK	LIGHT	COPY	SKIB0592E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
TRANSMISSION	ECM	Make sure of normal reception from ECM.	OK/UNKWN
	VDC/TCS/ABS	Make sure of normal reception from ABS actuator and electric unit (control unit).	OK/UNKWN
	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN

LAN-17

Display Results (Present)

• OK : Normal NG: Malfunction

Revision: March 2005

UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

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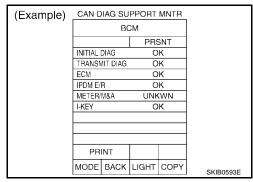
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DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR BCM



"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
BCM	ECM	Make sure of normal reception from ECM.	OK/UNKWN
DCIVI	IPDM E/R	Make sure of normal reception from IPDM E/R.	OK/UNKWN
	METER/M&A	Make sure of normal reception from combination meter.	OK/UNKWN
	I-KEY	I-KEY is not diagnosed.	OK

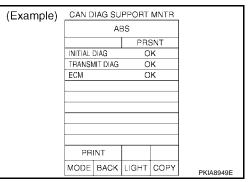
Display Results (Present)

OK : NormalNG : Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

ABS models



"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
ABS	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
	ECM	Make sure of normal reception from ECM.	OK/UNKWN

Display Results (Present)

OK : NormalNG : Malfunction

UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

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TCS models

(Example)	CAN D	IAG SU	MNTR		
. ,		Al			
	INITIAL	DIAG	C	K	
	TRANS	/IT DIAG	С	K	
	ECM		С	K	
	TCM		С	K	
			_		
	PR	INT			
	MODE	BACK	LIGHT	COPY	SKIB0594E

"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present
	INITIAL DIAG	Make sure that microcomputer in ECU works normally.	OK/NG
ABS	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN
ADS	ECM	Make sure of normal reception from ECM.	OK/UNKWN
	TCM	Make sure of normal reception from TCM.	OK/UNKWN

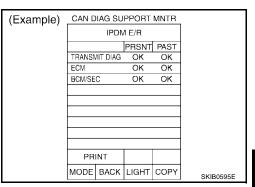
Display Results (Present)

OK : Normal

NG: Malfunction

• UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR IPDM E/R



"SELECT SYSTEM" screen	"CAN DIAG SUPPORT MNTR" screen	Description	Present	Past
IPDM E/R	TRANSMIT DIAG	Make sure of normal transmission.	OK/UNKWN/-	
	ECM	Make sure of normal reception from ECM. OK/UNK\		OK/0/1~39/-
	BCM/SEC	Make sure of normal reception from BCM.	OK/UNKWN/-	1

Display Results (Present)

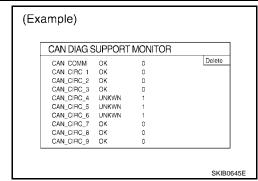
- OK : Normal
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.
- -: There is no received unit or the unit is not in the condition that reception diagnosis is performed

Display Results (Past)

- OK : Normal
- 0 : There is malfunction now.
- 1 ~ 39: Displays when it is normal at present and finds malfunction in the past. It increases like 0→1→2...38→39 after returning to the normal condition whenever IGN OFF→ON. If it is over 39, it is fixed to 39 until the self-diagnostic results are erased. It returns to 0 when malfunction is detected again in the process.
- : Undiagnosed

[CAN]

DESCRIPTION OF "CAN DIAG SUPPORT MNTR" SCREEN FOR DISPLAY CONTROL UNIT



Unit name	Diagnosis item	Description	"CAN DIAG SUPPORT MONITOR" screen	Error counter (Reference)
	CAN COMM	Make sure that microcomputer in ECU works normally.	OK/NG	
	CAN CIRC 1	Make sure of normal transmission.	OK/UNKWN	
	CAN CIRC 2	Make sure of normal reception from BCM.	OK/UNKWN	1
	CAN CIRC 3	Make sure of normal reception from ECM.	OK/UNKWN	
Display control unit	CAN CIRC 4	CAN CIRC 4 is not diagnosed.	UNKWN	0/1~50
Display Control unit	CAN CIRC 5	Make sure of normal reception from combination meter.	OK/UNKWN	0/1~50
	CAN CIRC 6	CAN CIRC 6 is not diagnosed.	UNKWN	
	CAN CIRC 7	Make sure of normal reception from IPDM E/R.	OK/UNKWN	
	CAN CIRC 8	CAN CIRC 8 is not diagnosed.	UNKWN	
	CAN CIRC 9	CAN CIRC 9 is not diagnosed.	UNKWN	

Display Results (Present)

- OK : Normal
- NG: Malfunction
- UNKWN: The diagnosed unit does not transmit or receive the applicable data normally.
- -: There is no received unit or the unit is not in the condition that reception diagnosis is performed.

Display Results: Error Counter (Reference)

- 0: It is normal now.
- 1 ~ 50: Displays when it finds malfunction in the past even if it is normal or there is a malfunction at present. Also, displays when diagnosis is not performed. It increase like 0→1→2...49→50 after returning to the normal condition whenever IGN OFF→ON. If it is over 50, it is fixed to 50 until the self-diagnostic results are erased. Keep this condition until resetting it.

CAN COMMUNICATION

PFP:23710

System Description

UKS0010C

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

UKS0010E

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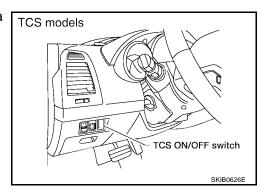
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Go to CAN system, when selecting your CAN system type from the following table.

Body type		Sedan														
Axle		2WD														
Engine	QR2	QR25DE VQ35DE						QR25DE				VQ35DE				
Transmission		M/T						4A/T			5A/T					
Brake control	No ABS	ABS	No	ABS	A	BS	Т	CS	No .	ABS	Al	BS	ABS	TCS	ABS	TCS
Navigation system				×		×		×		×		×			×	×
CAN system type		1		2	1	2	3	4	5	6	5	6	7	8	9	10
CAN system trou- ble diagnosis	LAN-37 LAN -49			<u>LAN</u> -32	<u>LAN</u> <u>-54</u>	<u>LAN</u> -73	<u>LAN</u> -94	<u>LAN</u> -118	<u>LAN</u> -134	<u>LAN</u> -113	<u>LAN</u> -139	<u>LAN</u> -163	<u>LAN</u> -189	<u>LAN</u> -215	<u>LAN</u> -242	

x: Applicable

Vehicles equipped with TCS can be identified by the presence of a TCS ON/OFF switch.

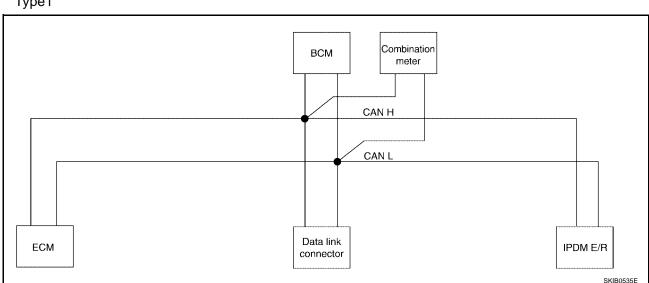


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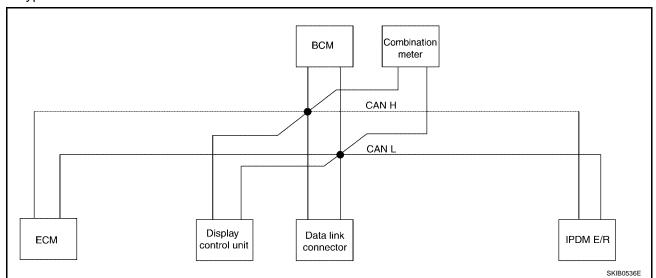
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TYPE1/TYPE2 System diagram

Type1







Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Display control unit*	BCM	Combination meter	IPDM E/R
Engine speed signal	Т	R		R	
Engine coolant temperature signal	Т			R	
Fuel concurration manifest size of	Т			R	
Fuel consumption monitor signal		R		Т	
A/C switch signal	R		Т		
A/C compressor signal	R				Т
A/C compressor request signal	Т				R
Blower fan switch signal	R		Т		
Cooling fan motor operation signal	R				Т
Cooling fan speed request signal	Т				R
Position lights request			Т	R	R
Low beam request			Т		R
Low beam status	R				Т
High beam request			Т	R	R
High beam status	R				Т
Front fog light request			Т		R
Vehicle speed signal	R	R		Т	
Oil pressure switch signal				R	Т
Sleep request1			Т	R	
Sleep request2			Т		R
Seat belt buckle switch signal			R	Т	
Door switch signal		R	Т	R	R
Turn indicator signal			Т	R	
Buzzer output signal			T	R	
Trunk switch signal			T	R	
Wiper stop position signal			R		T
Rear window defogger switch signal			T		R
Rear window defogger control signal	R	R	R		Т

CAN COMMUNICATION

[CAN]

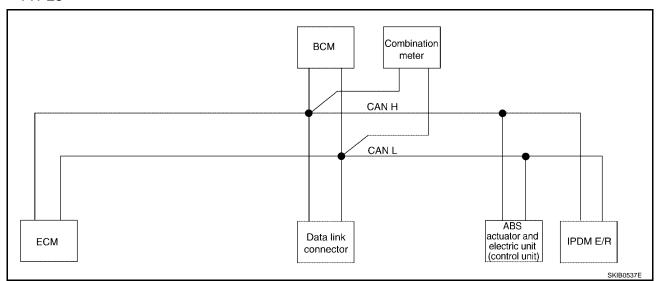
Signals	ECM	Display control unit*	ВСМ	Combination meter	IPDM E/R
Hood switch signal			R		T
Theft warning horn status signal			R		Т
Distance to empty signal		R		Т	
Fuel level low warning signal		R		Т	
Theft warning horn request signal			Т		R
Horn chirp signal			Т		R
Fuel level sensor signal	R			Т	
ASCD SET lamp signal	Т			R	
ASCD CRUISE lamp signal	Т			R	
Malfunction indicator lamp signal	Т			R	

NOTE:

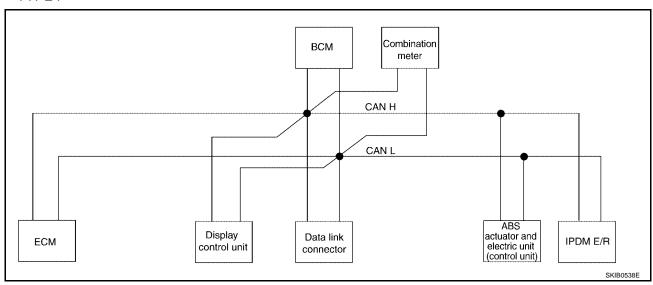
TYPE3/TYPE4

System diagram

TYPE3



TYPE4



Revision: March 2005 LAN-23 2005 Altima

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^{*:}Navigation system only

Input/output signal chart

T: Transmit R: Receive

					ABS actua-	
Signals	ECM	Display con- trol unit*	BCM	Combination meter	tor and elec- tric unit (control unit)	IPDM E/R
Engine speed signal	Т	R		R	R	
Engine coolant temperature signal	Т			R		
Fuel consumption monitor signal	Т			R		
Fuel consumption monitor signal		R		Т		
A/C switch signal	R		Т			
A/C compressor signal	R					Т
A/C compressor request signal	Т					R
Cooling fan motor operation signal	R					Т
Cooling fan speed request signal	Т					R
Position lights request			Т	R		R
Low beam request			Т			R
Low beam status	R					Т
High beam request			Т	R		R
High beam status	R					Т
Front fog light request			Т			R
				R	Т	
Vehicle speed signal	R	R	R	Т		
Oil pressure switch signal				R		Т
Sleep request1			Т	R		
Sleep request2			Т			R
Seat belt buckle switch signal			R	Т		
Door switch signal		R	Т	R		R
Turn indicator signal			Т	R		
Buzzer output signal			Т	R		
Trunk switch signal			Т	R		
Wiper stop position signal			R			Т
Rear window defogger switch signal			Т			R
Rear window defogger control signal	R	R	R			Т
Hood switch signal			R			Т
Theft warning horn status signal			R			Т
Distance to empty signal		R		Т		
Fuel level low warning signal		R		Т		
Theft warning horn request signal			Т			R
Horn chirp signal			Т			R
Blower fan switch signal	R		Т			
Fuel level sensor signal	R			Т		
ASCD SET lamp signal	Т			R		
ASCD CRUISE lamp signal	Т			R		
Malfunction indicator lamp signal	Т			R		

NOTE:

*:Navigation system only

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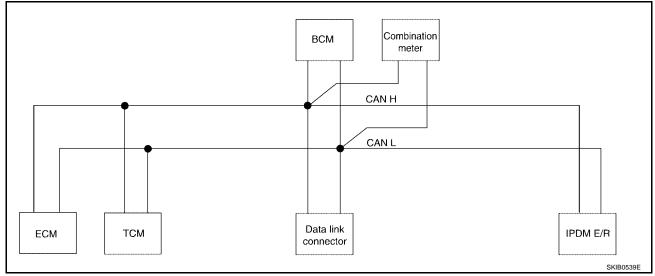
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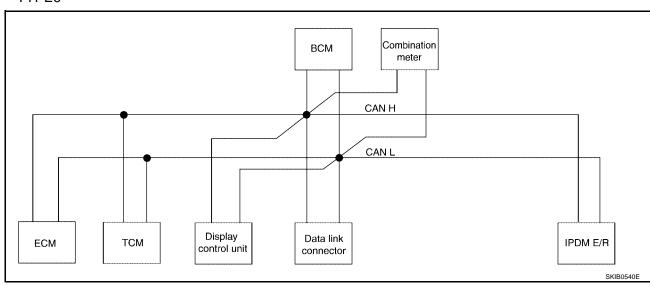
TYPE5/TYPE6

System diagram

TYPE5



TYPE6



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Display con- trol unit*	ВСМ	Combination meter	IPDM E/R
Engine speed signal	Т		R		R	
Engine coolant temperature signal	Т				R	
Fuel consumption monitor signal	Т				R	
			R		Т	
A/T check indicator lamp signal		Т			R	
A/T position indicator signal		Т			R	
A/C switch signal	R			T		
A/C compressor signal	R					T
A/C compressor request signal	Т					R
Blower fan switch signal	R			Т		
Cooling fan motor operation signal	R					Т

CAN COMMUNICATION

[CAN]

Signals	ECM	TCM	Display con- trol unit*	ВСМ	Combination meter	IPDM E/R
Cooling fan speed request signal	Т					R
Position lights request				Т	R	R
Low beam request				Т		R
Low beam status	R					Т
High beam request				Т	R	R
High beam status	R					Т
Front fog light request				Т		R
Vehicle speed signal	R		R	R	Т	
Oil pressure switch signal					R	Т
Sleep request1				Т	R	
Sleep request2				Т		R
Seat belt buckle switch signal				R	Т	
Door switch signal			R	Т	R	R
Turn indicator signal				Т	R	
Buzzer output signal				Т	R	
Trunk switch signal				Т	R	
Wiper stop position signal				R		Т
Rear window defogger switch signal				Т		R
Rear window defogger control signal	R		R	R		Т
Hood switch signal				R		Т
Theft warning horn status signal				R		Т
Distance to empty signal			R		Т	
Fuel level low warning signal			R		Т	
Theft warning horn request signal				Т		R
Horn chirp signal				Т		R
3rd position switch signal		R			Т	
Closed throttle position signal	Т	R				
Wide open throttle position signal	Т	R				
Stop lamp switch signal		R			Т	
Engine and A/T integrated control	Т	R				
signal	R	Т				
A/T self-diagnosis signal	R	Т				
Output shaft revolution signal	R	T				
Fuel level sensor signal	R				Т	
ASCD SET lamp signal	Т				R	
ASCD CRUISE lamp signal	Т				R	
Malfunction indicator lamp signal	Т				R	

NOTE:

^{*:}Navigation system only

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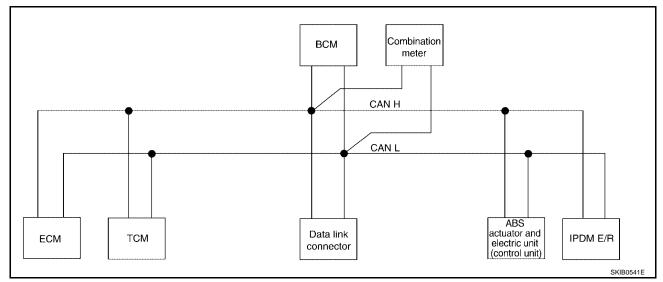
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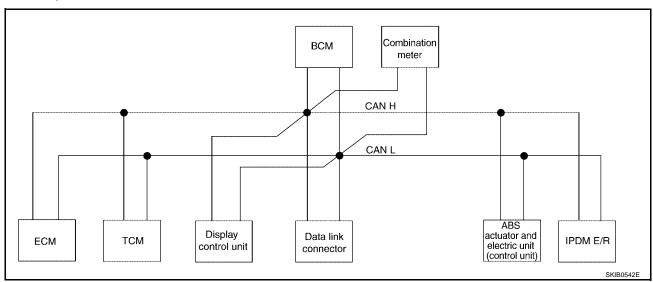
TYPE7/TYPE9

System diagram

TYPE7



TYPE9



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ТСМ	Display control unit*	всм	Combina- tion meter	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R	R		R		
Engine coolant temperature signal	Т	R			R		
	Т				R		
Fuel consumption monitor signal			R		Т		
A/T warning lamp signal		Т			R		
A/T position indicator signal		Т			R		
ABS operation signal		R				Т	
A/C switch signal	R			Т			
A/C compressor signal	R						Т

							[CAN
Signals	ECM	TCM	Display control unit*	всм	Combina- tion meter	ABS actuator and electric unit (control unit)	IPDM E/R
A/C compressor request signal	Т						R
Cooling fan motor operation signal	R						Т
Cooling fan speed request signal	Т						R
Position lights request				Т	R		R
Low beam request				T			R
Low beam status	R						Т
High beam request				Т	R		R
High beam status	R						Т
Front fog light request				Т			R
Vehicle enough simple					R	Т	
Vehicle speed signal	R	R	R	R	Т		
Oil pressure switch signal					R		Т
Sleep request1				Т	R		
Sleep request2				Т			R
Seat belt buckle switch signal				R	Т		
Door switch signal			R	Т	R		R
Turn indicator signal				Т	R		
Buzzer output signal				Т	R		
Trunk switch signal				Т	R		
Wiper stop position signal				R			Т
Rear window defogger switch signal				Т			R
Rear window defogger control signal	R		R	R			Т
Hood switch signal				R			Т
Theft warning horn status signal				R			Т
Distance to empty signal			R		Т		
Fuel level low warning signal			R		Т		
Theft warning horn request signal				Т			R
Horn chirp signal				Т			R
ASCD operation signal	Т	R					
ASCD OD cancel request signal	Т	R					
Manual mode indicator signal		Т			R		
Electric throttle control signal	Т	R					
Stop lamp switch signal		R			Т		
Blower fan switch signal	R			Т			
A/T self-diagnostic signal	R	Т					
Output shaft revolution signal	R	Т					
Turbine revolution signal	R	Т					
Fuel level sensor signal	R				Т		
ASCD SET lamp signal	T				R		
ASCD CRUISE lamp signal	T				R		
Malfunction indicator lamp signal	Т				R		

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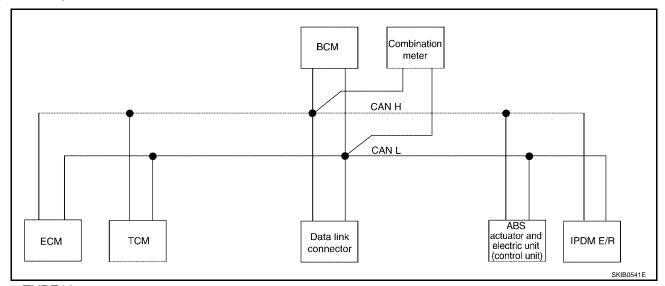
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NOTE:

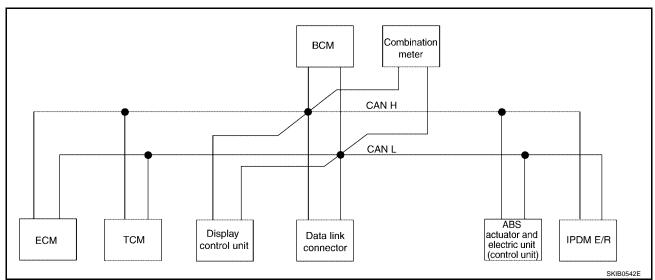
*:Navigation system only

TYPE8/TYPE10 System diagram

• TYPE8



TYPE10



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit*	ВСМ	Combina- tion meter	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	Т	R	R		R	R	
Engine coolant temperature signal	Т	R			R		
Accelerator pedal position signal	Т					R	
Fuel consumption monitor signal	Т				R		
ruei consumption monitor signal			R		Ţ		
A/T warning lamp signal		Т			R		
A/T position indicator signal		Ţ			R	R	

Signals	ЕСМ	ТСМ	Display control unit*	ВСМ	Combina- tion meter	ABS actuator and electric unit (control unit)	IPDM E/R
ABS operation signal		R				Т	
A/C switch signal	R			Т			
A/C compressor signal	R						Т
A/C compressor request signal	Т						R
Cooling fan motor operation signal	R						Т
Cooling fan speed request signal	Т						R
Position lights request				Т	R		R
Low beam request				Т			R
Low beam status	R						Т
High beam request				Т	R		R
High beam status	R						Т
Front fog light request				Т			R
					R	Т	
Vehicle speed signal	R	R	R	R	Т		
Oil pressure switch signal					R		Т
Sleep request1				Т	R		
Sleep request2				Т			R
Seat belt buckle switch signal				R	Т		
Door switch signal			R	Т	R		R
Turn indicator signal				Т	R		
Buzzer output signal				Т	R		
Trunk switch signal				Т	R		
Wiper stop position signal				R			Т
Rear window defogger switch signal				Т			R
Rear window defogger control signal	R		R	R			Т
Hood switch signal				R			Т
Theft warning horn status signal				R			Т
Distance to empty signal			R		Т		
Fuel level low warning signal			R		Т		
Theft warning horn request signal				Т			R
Horn chirp signal				T			R
ASCD operation signal	Т	R					
ASCD OD cancel request signal	 T	R					
Manual mode indicator signal		Т			R		
Electric throttle control signal	T	R					
Stop lamp switch signal	•	R			T		
Blower fan switch signal	R			T			
A/T self-diagnosis signal	R	Т		•			
Output shaft revolution signal	R	Т					
Turbine revolution signal	R	T					
Fuel level sensor signal	R	'			T		
ASCD SET lamp signal	T				R		

CAN COMMUNICATION

[CAN]

Signals	ECM	ТСМ	Display control unit*	всм	Combina- tion meter	ABS actuator and electric unit (control unit)	IPDM E/R
ASCD CRUISE lamp signal	Т				R		
Malfunction indicator lamp signal	Т				R		

NOTE:

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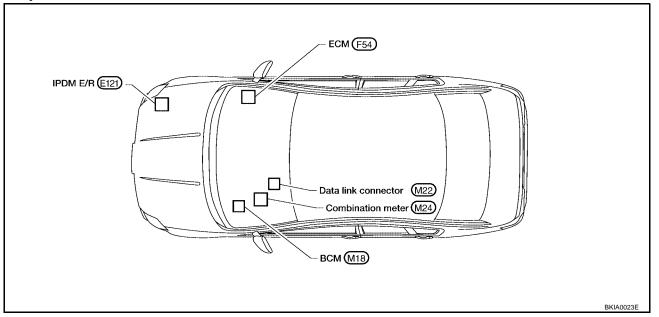
^{*:}Navigation system only

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CAN SYSTEM (TYPE 1)

PFP:23710

Component Parts and Harness Connector Location



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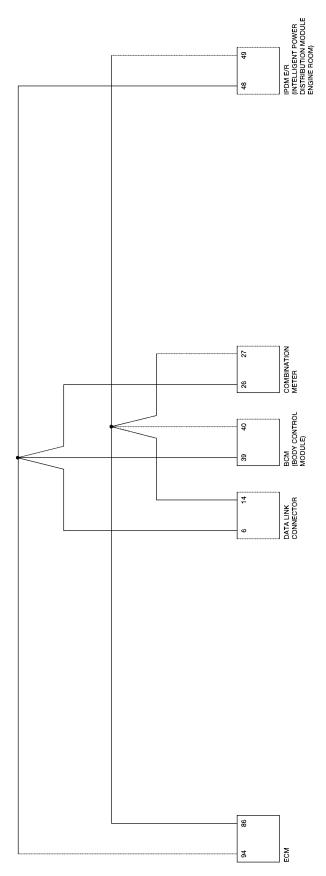
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Schematic UKS001YF



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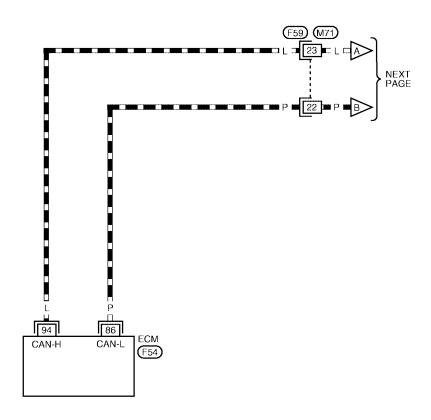
BKWA0118E

Wiring Diagram - CAN -

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LAN-CAN-01

: DATA LINE





REFER TO THE FOLLOWING. (F54) - ELECTRICAL UNITS

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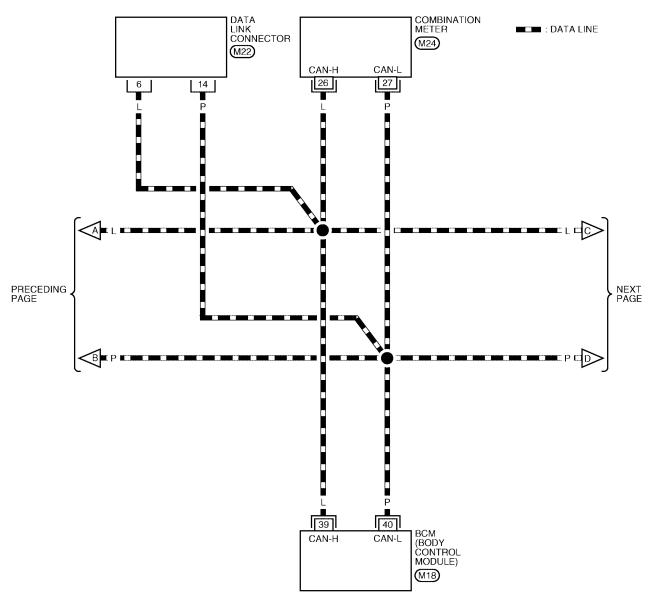
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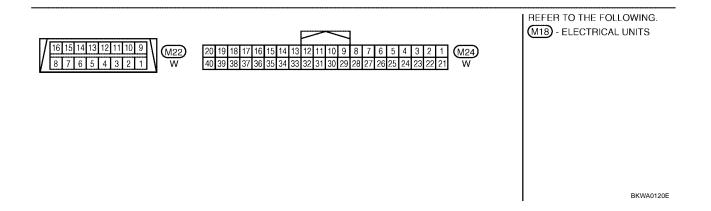
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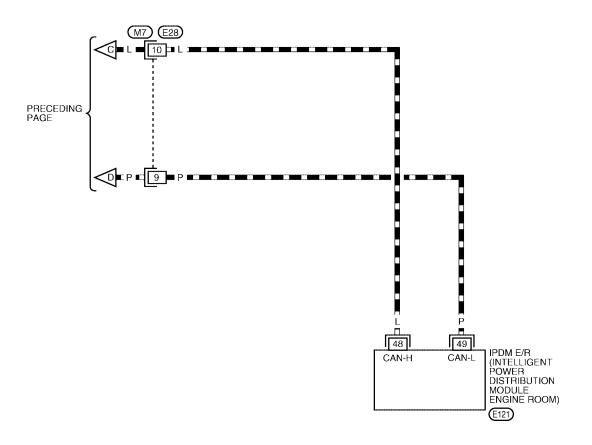
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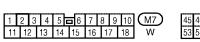


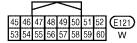


LAN-CAN-03

: DATA LINE







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CAN SYSTEM (TYPE 1)

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CHECK SHEET UKS001RW

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Check sheet			C	VNI DIAG GI	JPPORT MN	TD			
051 507 0	(OTEN			N DIAG SC		diagnosis		05, 5 5, 4	
SELECT S	YSTEM screen	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R		RESULTS
ENGINE	-	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	(U1000)	CAN COMM CIRCUIT (U1001)
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
Symptoms :									
			tach copy of ECT SYSTE	M		Attach SELECT	copy of SYSTEM		7
	Attach c ENGI SELF-DIAG	NE			ch copy of BCM IAG RESULT	~S		Attach copy of IPDM E/R F-DIAG RESULTS	
	Attach c ENGI CAN DIAG S MNT	NE SUPPORT		CAN DI	ch copy of BCM AG SUPPOF MNTR	RT		Attach copy of IPDM E/R DIAG SUPPORT MNTR	

CHECK SHEET RESULTS (EXAMPLE)

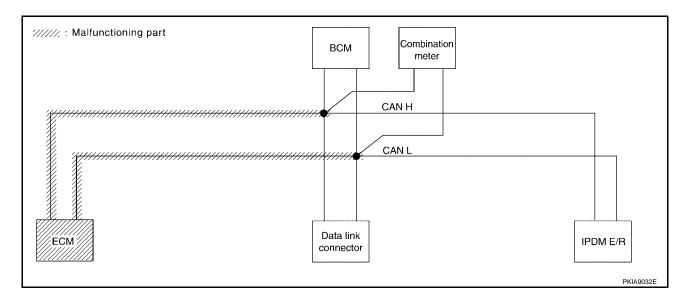
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check ECM circuit. Refer to LAN-43, "ECM Circuit Check" .

			CA	AN DIAG SU	PPORT MN	TR				
SELECT SYST	EM scroon	1 (4) 1	Transmit		Receive	diagnosis	SELF-DIAG RESULTS			
GEEEOT STSTEM SCIEBIT		Initial diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELF-DIAC	A RESOLIS	
ENGINE	_	NG	UNI W WN	_	UNKWN	UNION	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UV01)	
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNK WN	UNKWN	_	_	CAN COMM CIRCUIT (U V 00)	_	
									PKIA8943E	



CAN SYSTEM (TYPE 1)

[CAN]

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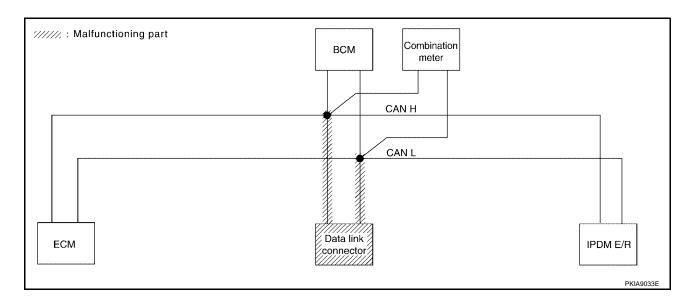
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Case 2
Check data link connector circuit. Refer to <u>LAN-43</u>, "<u>Data Link Connector Circuit Check"</u>.

			C/	AN DIAG SU	PPORT MN	TR				
SELECT SYSTEM screen		Initial	Transmit		Receive	diagnosis		SELF-DIAG RESULTS		
		Initial Transmit diagnosis		ECM	BCM /SEC	METER /M&A IPDM E/R		SELF-DIAG RESULTS		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No incocation	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_	

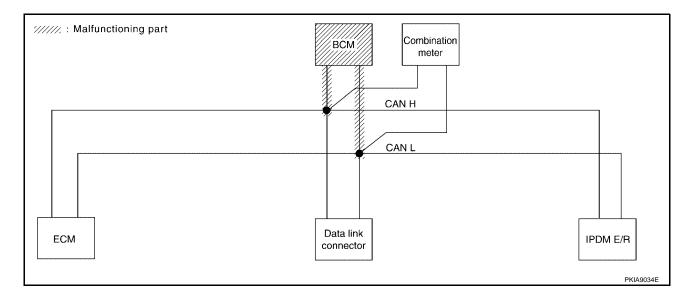


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Case 3
Check BCM circuit. Refer to <u>LAN-44, "BCM Circuit Check"</u>.

			CA	AN DIAG SU	PPORT MN	TR				
SELECT SYS	STEM screen	Initial	Transmit		Receive	diagnosis	SELF-DIAG RESULTS			
SEEE OF OTEN GOICE		diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELI-DIAC	THEODEIG	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U 101)	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNK/WN	_	_	CAN COMM CIRCUIT (U 100)	_	



CAN SYSTEM (TYPE 1)

[CAN]

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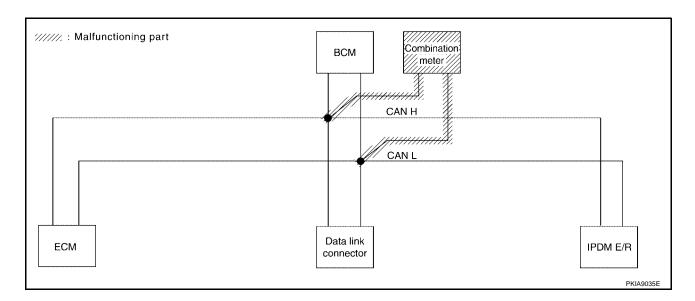
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Case 4

Check combination meter circuit. Refer to LAN-44, "Combination Meter Circuit Check" .

			C/						
SELECT SYSTEM screen		Initial	Transmit		Receive	diagnosis	SELF-DIAG RESULTS		
SEEEOT ST	LLOT STOTEM Screen		Initial Transmit diagnosis		BCM /SEC	I I I I I I I I I I I I I I I I I		SELI-DIAG RESOLIS	
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

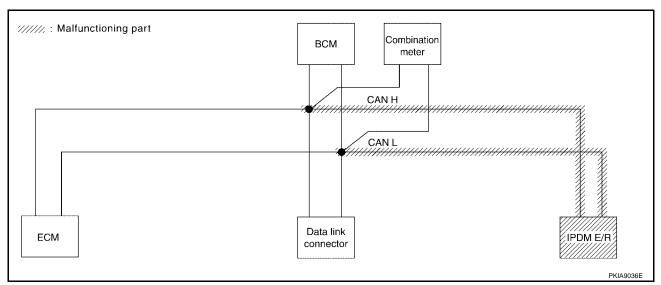


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Case 5
Check IPDM E/R circuit. Refer to <u>LAN-45</u>, "IPDM E/R Circuit Check" .

			C.A	AN DIAG SU	PPORT MN	TR				
SELECT SYS	EM screen	luciai — l	Tromomit		Receive		SELF-DIAG RESULTS			
OLLEGI GIGINI SCICCII		Initial diagnosis	Transmit diagnosis	ECM	ECM BCM METER IPDM		IPDM E/R			
ENGINE	_	NG	UNKWN	=	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	n uk wu	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U N 00)	_	
									PKIA8973E	



Case 6
Check CAN communication circuit. Refer to <u>LAN-45</u>, "CAN Communication Circuit Check" .

			C.A	AN DIAG SU	PPORT MN	TR				
SELECT SYST	EM screen	1	Transmit		Receive	diagnosis		SELF-DIAG	DESILITS	
SEELOT OT OTEM SOICEM		Initial diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELI-DIAC	THESOLIS	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNIWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U N 00)	_	
							•			
									PKIA8974E	

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ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

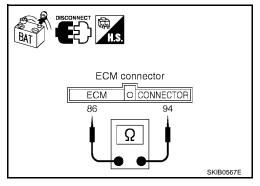
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P) : Approx.
$$108 - 132\Omega$$

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

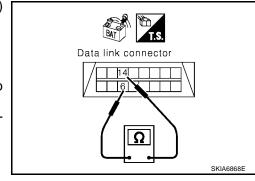
6 (L) - 14 (P) : Approx. 54 - 66
$$\Omega$$

OK or NG

NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6. "TROUBLE DIAGNOSES WORK FLOW".

>> Repair harness between data link connector and combination meter.



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BCM Circuit Check

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1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

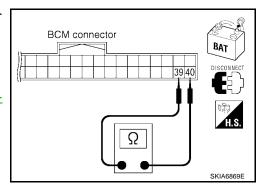
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

: Approx. 54 - 66Ω

OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM".

NG >> Repair harness between data link connector and BCM.



Combination Meter Circuit Check

UKS001YK

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

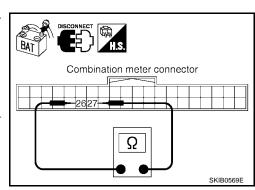
: Approx. 54 - 66 Ω

OK or NG

OK >> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



CAN SYSTEM (TYPE 1)

[CAN]

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IPDM E/R Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- IPDM E/R connector
- Harness connector E28
- Harness connector M7

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E121 2. terminals 48 (L) and 49 (P).

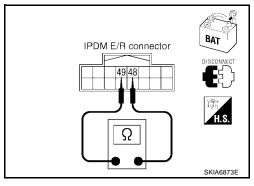
: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG

>> Repair harness between IPDM E/R and data link con-



UKS001YM

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- ECM
- **BCM**
- Combination meter
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. LAN

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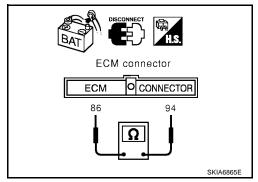
2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- Harness connector F59
- 2. Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector F59.



3. Check harness for short circuit

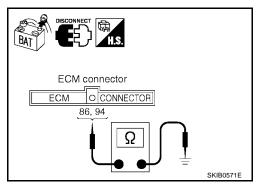
Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

> : Continuity should not exist. 94 (L) - Ground 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

>> Repair harness between ECM and harness connector NG



4. CHECK HARNESS FOR SHORT CIRCUIT

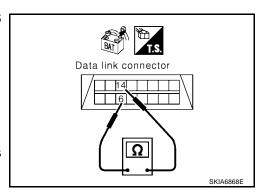
- Disconnect following connectors.
- BCM connector
- Combination meter connector
- Harness connector M7
- Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



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5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

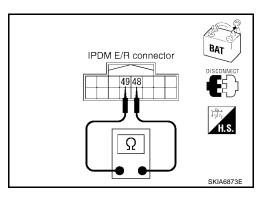
48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harn

>> Repair harness between harness connector E28 and IPDM E/R.



7. CHECK HARNESS FOR SHORT CIRCUIT

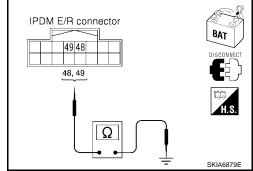
Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector E28 and IPDM E/R.



Data link connector

6, 14

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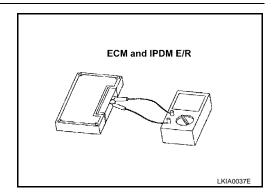
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8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- 3. Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

9. CHECK SYMPTOM

- 1. Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- BCM
- Combination meter
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

CAN SYSTEM (TYPE 2)

ECM (F54)

Data link connector M22

Combination meter M24

BCM (M18)

[CAN]

CAN SYSTEM (TYPE 2)

IPDM E/R (E121)

Display control

unit M95

PFP:23710

UKS001Y3

Component Parts and Harness Connector Location

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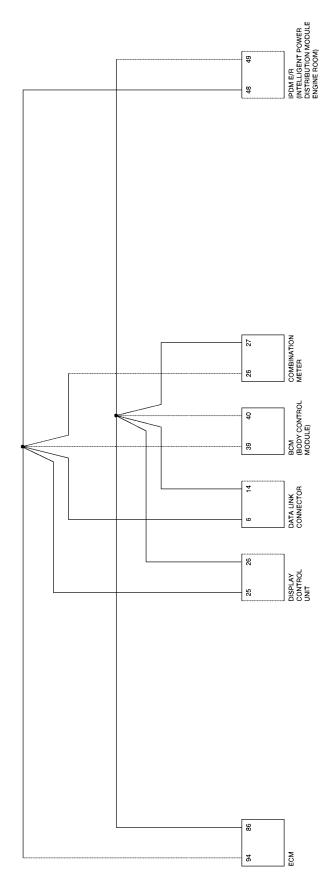
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Schematic UKS001Y4



Wiring Diagram - CAN -

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LAN-CAN-04

■□■ : DATA LINE

F59 (M71)
NEXT PAGE

94 86 CAN-H CAN-L F54

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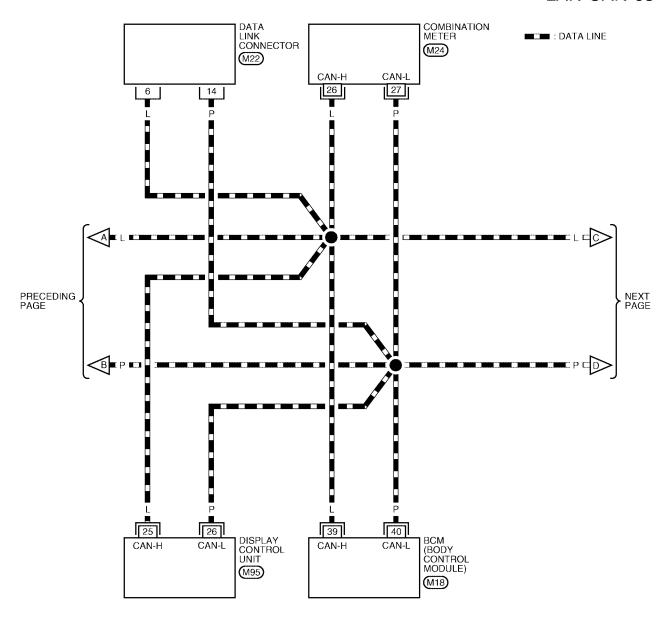
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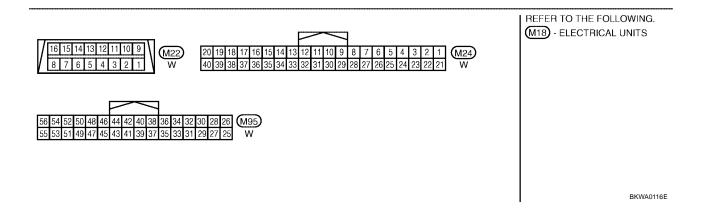
1	2	3	4	5	6	Ш	=	7	8	9	10	11	(F59)
12	13	14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING. F54 - ELECTRICAL UNITS

BKWA0115E

LAN-CAN-05





LAN-CAN-06

49

CAN-L

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

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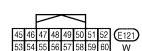
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1 2 3 4 5 **a** 6 7 8 9 10 M7 11 12 13 14 15 16 17 18

PRECEDING PAGE



M7 (E28)

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CHECK SHEET

NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Check sheet tabl			C	N DIAG SU	PP∩RT MNI	TR	_		
051 507 01/07				IN DIAG 30		diagnosis		051551	
SELECT SYST	EM screen	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R		RESULTS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCU (U1001)
Display control unit	-	NG	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_
ЗСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
			tach copy of ECT SYSTE	M			copy of SYSTEM		
		-						e above check shee	
Confirmation/Adju	ustment Displa	ay Che	eck sheet tab				ment Display	+	table Display
CAN CURC 1			Initial diagr		CAN CII			-	R/M&A _
CAN CIRC 1 CAN CIRC 2		!	Transmit dia BCM	griosis	CAN CII			-	
CAN CIRC 3			ECM		CAN CII			-	_
CAN CIRC 4			_		CAN CI			-	_
			CAN DI		ch copy of control unit T MONITOR	: R check she	et		

CAN SYSTEM (TYPE 2)

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	Attach copy of IPDM E/R SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS	Attach copy of ENGINE SELF-DIAG RESULTS
Attach copy of ENGINE CAN DIAG SUPPORT MNTR Attach copy of BCM CAN DIAG SUPPORT MNTR Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR	IPDM E/R CAN DIAG SUPPORT	BCM CAN DIAG SUPPORT	ENGINE CAN DIAG SUPPORT

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CHECK SHEET RESULTS (EXAMPLE)

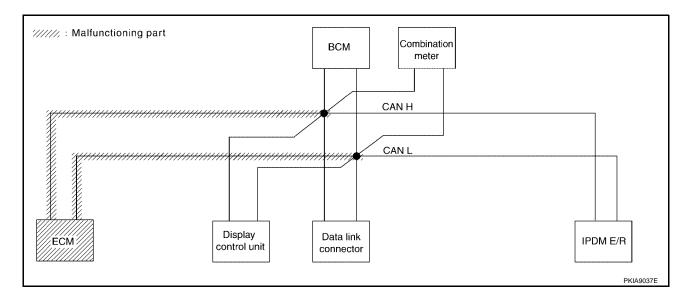
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check ECM circuit. Refer to LAN-62, "ECM Circuit Check" .

			CA	AN DIAG SU	PPORT MN	TR		SELF-DIAG RESULTS		
SELECT SYST	EM screen	Imitial	Transmit		Receive	diagnosis				
OLLLOT GTOT	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELI-DIAC	THEODEIG	
ENGINE	_	NG	UNI W N	_	UNK WN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
Display control unit		NG	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	_	_	
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNK WN	UNKWN	_	_	CAN COMM CIRCUIT (U 100)	_	
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CAN SYSTEM (TYPE 2)

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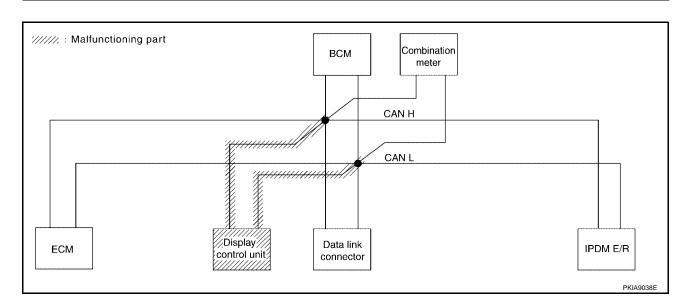
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Case 2
Check display control unit circuit. Refer to <u>LAN-62</u>, "<u>Display Control Unit Circuit Check"</u>.

			CA						
SELECT SYSTEM screen		Initial Transmit			Receive	diagnosis	SELF-DIAG RESULTS		
SEEEOT STOT	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	OLLI DIAGNILOGLIO	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
Display control unit	_	NG	∩ N MN	UNK ∕ WN	nukwu	υ νκ ⁄ων	∩ NK WN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

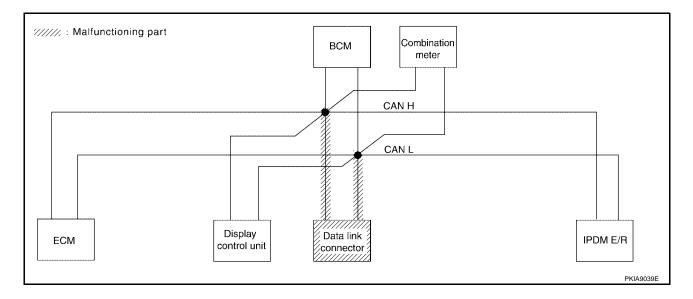


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Case 3
Check data link connector circuit. Refer to <u>LAN-63</u>, "<u>Data Link Connector Circuit Check"</u>.

				AN DIAC CH	DDODT MN	TD			
SELECT SYST	SELECT SYSTEM screen		Transmit	AN DIAG SU		diagnosis	SELF-DIAG RESULTS		
OLLEGI GIGI	EIVI GOICCII	Initial diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
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CAN SYSTEM (TYPE 2)

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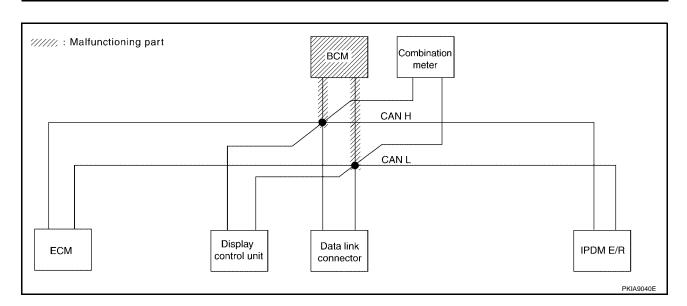
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Case 4
Check BCM circuit. Refer to <u>LAN-63</u>, "BCM Circuit Check" .

			CA	1					
SELECT SYSTEM screen		M screen Initial			Receive	diagnosis	SELF-DIAG RESULTS		
322201 3101	LIVI GOLGGII	diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SEE BING HEODEIO	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNI WN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNK/WN	_	_	CAN COMM CIRCUIT (U 100)	_

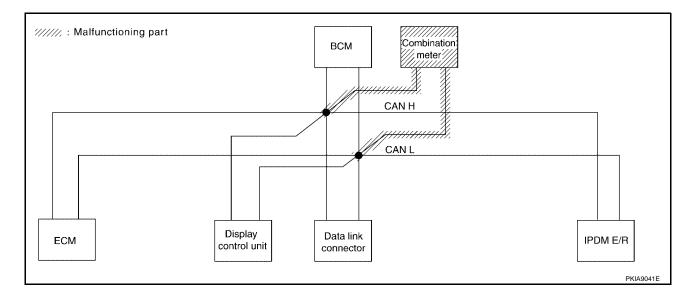


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Case 5
Check combination meter circuit. Refer to <u>LAN-64</u>, "Combination Meter Circuit Check" .

								п		
			CA							
SELECT SYSTEM screen		croon latital			Receive	diagnosis	SELF-DIAG RESULTS			
OLLEGI GIGI	LIW SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELI-DIAC	TILOULIO	
ENGINE	_	NG	UNKWN	_	UNKWN	NNWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_	
					·	·	·		PKIA8905E	



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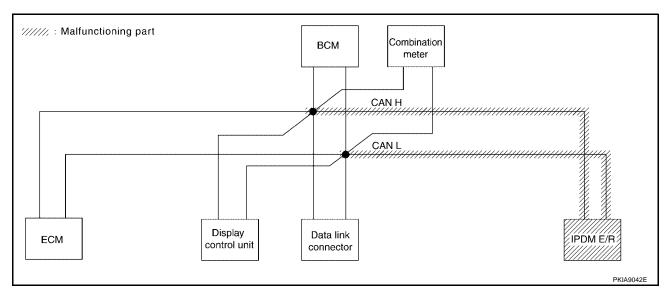
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Case 6

Check IPDM E/R circuit. Refer to LAN-64, "IPDM E/R Circuit Check" .

			CA	AN DIAG SU	PPORT MN	ΓR				
SELECT SYSTEM screen		Initial	Transmit		Receive	diagnosis	SELF-DIAG RESULTS			
GEEEOT GTOT	LIVI SCIECTI	diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELI-DIAC	GEEL BING NEGOCIO	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNION	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)	
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	_	_	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	Π ИΚ ₩И	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U 100)	_	



Case 7
Check CAN communication circuit. Refer to <u>LAN-65</u>, "CAN Communication Circuit Check" .

SELECT SYSTEM screen			CA	AN DIAG SU	PPORT MN	TR				
		Initial	Tuenemit		Receive	diagnosis	SELF-DIAG RESULTS			
SEEEOT STST	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	IPDM E/R	SELI-DIAC	z negoeig	
ENGINE	_	NG	UNIXWN	_	UNKWN	UN W WN	UNIMN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)	
Display control unit	_	NG	UNK WN	UNKWN	UNK WN	UNK WN	UNKWN	_	_	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	=	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	CAN COMM CIRCUIT (U 100)	_	

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ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

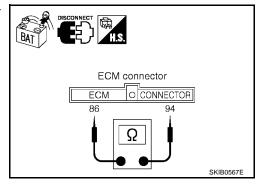
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



UKS001Y7

Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

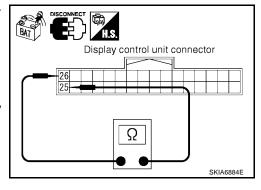
- Disconnect display control unit connector.
- Check resistance between display control unit harness connector M95 terminals 25 (L) and 26 (P).

: Approx. 54 - 66Ω

OK or NG

OK >> Replace display control unit.
NG >> Repair harness between data

>> Repair harness between data link connector and display control unit.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

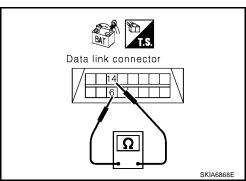
Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness between data link connector and combination meter.



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

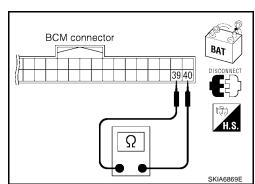
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM".

NG >> Repair harness between data link connector and BCM.



UKS001Y9

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Combination Meter Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

: Approx. 54 - 66 Ω

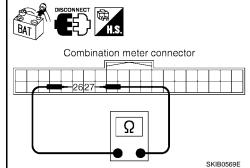
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



IPDM E/R Circuit Check

UKS001YB

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- IPDM E/R connector
- Harness connector E28
- Harness connector M7

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

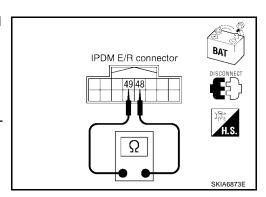
: Approx. 108 - 132 Ω

OK or NG

NG

OK >> Replace IPDM E/R.

>> Repair harness between IPDM E/R and data link connector.



CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- **ECM**
- Display control unit
- BCM
- Combination meter
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

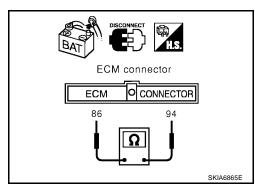
2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors. 1.
- ECM connector
- Harness connector F59
- Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector F59.



3. CHECK HARNESS FOR SHORT CIRCUIT

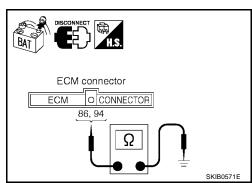
Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

> : Continuity should not exist. 94 (L) - Ground 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector F59.



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4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Display control unit connector
- BCM connector
- Combination meter connector
- Harness connector M7
- 2. Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

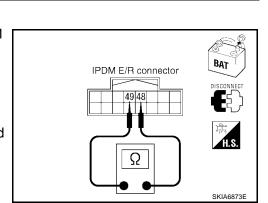
- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

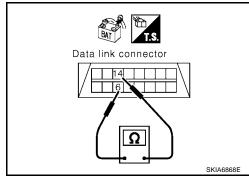
48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector E28 and IPDM E/R.





Data link connector

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7. CHECK HARNESS FOR SHORT CIRCUIT

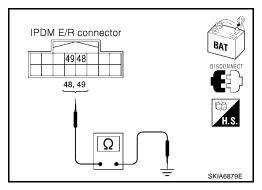
Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector E28 and IPDM E/R.



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

ECM and IPDM E/R LKIA0037E

9. CHECK SYMPTOM

- Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- Make sure that the same symptom is reproduced.
- Display control unit
- **BCM**
- Combination meter
- **ECM**
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit. Not reproduced>>Replace removed unit.

LAN-67 Revision: March 2005 2005 Altima

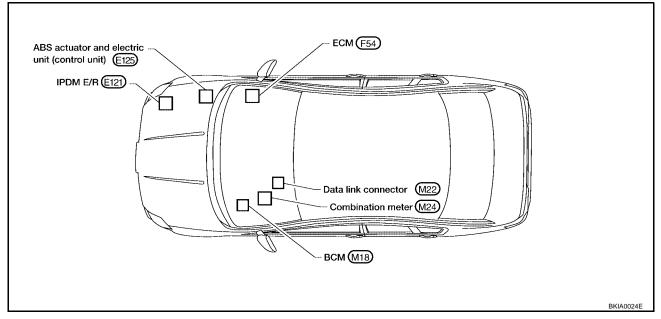
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CAN SYSTEM (TYPE 3)

PFP:23710

Component Parts and Harness Connector Location



[CAN] **Schematic** UKS001XS Α В С ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 8 D Е F G Н COMBINATION METER 27 BCM (BODY CONTROL MODULE) 33 DATA LINK CONNECTOR LAN \mathbb{N} - 88

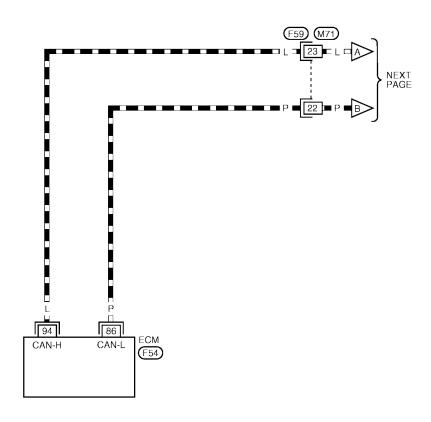
BKWA0110E

Wiring Diagram - CAN -

IKS001XT

LAN-CAN-07

■□■ : DATA LINE

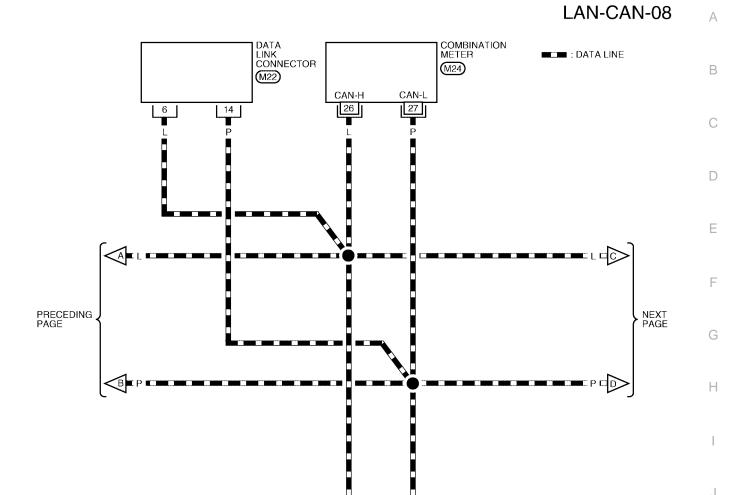


1 2	3	4	5	6	E	=	7	8	9	10	11	(F59) W
12 13	3 14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING.

(F54) - ELECTRICAL UNITS

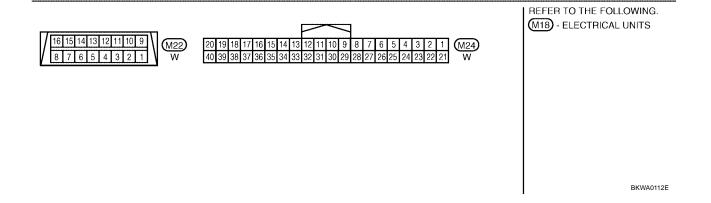
BKWA0111E



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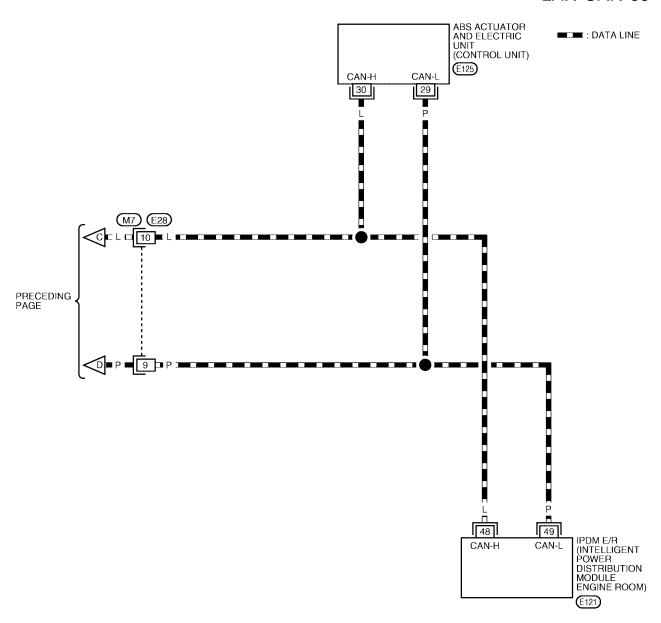
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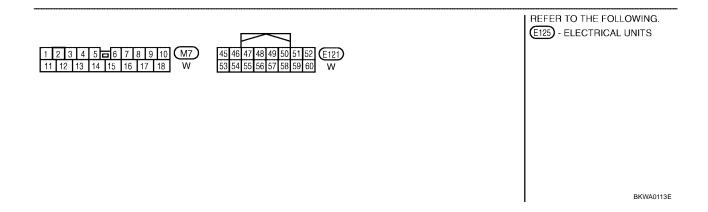
CAN-L

BCM (BODY CONTROL MODULE)

(M18)

LAN-CAN-09





CAN SYSTEM (TYPE 3)

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CHECK SHEET UKS001RU

NOTE:
If a check

Check sh	eet table								11	
				CAN DIA	G SUPPOR	RT MNTR eive diagn	nsis			
SELEC	T SYSTEM screen	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC			IPDM E/R		RESULTS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
ЗСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
			attach copy LECT SYS				Attach co SELECT S			
	Attach copy of ENGINE SELF-DIAG RESU			ch copy of BCM AG RESU			th copy of ABS AG RESUL	TS	Attach copy o IPDM E/R SELF-DIAG RESU	
	Attach copy of ENGINE CAN DIAG SUPPO MNTR		CAN DIA	ch copy of BCM AG SUPPC MNTR		CAN DIA	th copy of ABS G SUPPO MNTR	RT	Attach copy o IPDM E/R CAN DIAG SUPP MNTR	

CHECK SHEET RESULTS (EXAMPLE)

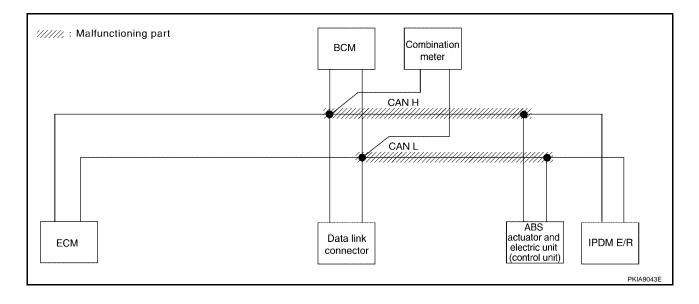
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-81</u>, <u>"Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

				CAN DIA	G SUPPOR	RT MNTR					
SELECT SY	ELECT SYSTEM screen		Transmit		Red	eive diagn	osis		SELF-DIAG RESULTS		
OLLEOT OT	JTEW SCICCI	Initial diagnosis	diagnosis	ECM	BCM METER VDC/TCS /SEC /M&A /ABS IPDM E/R						
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNI W WN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)	
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNK WN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	CAN COMM CIRCUIT (UV00)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (UN00)	_	



CAN SYSTEM (TYPE 3)

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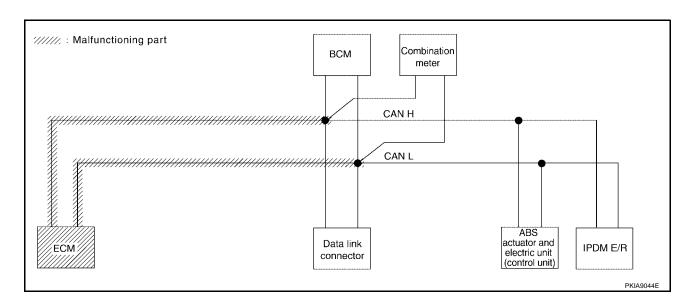
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Case 2
Check ECM circuit. Refer to <u>LAN-82</u>, "ECM Circuit Check" .

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYS	TEM screen Initial		Tronomit		Rec	eive diagn			SELF-DIAG RESULTS	
SELECT OF C	TEW Screen		Initial Transmit agnosis diagnosis		BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNK WN	_	UNK/WN	UN A WN	UNI W WN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U N01)
всм	No indication	NG	UNKWN	UNK WN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UN W WN	_	_	_	_	CAN COMM CIRCUIT (UV)00)	_
IPDM E/R	No indication	_	UNKWN	UNK/WN	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_

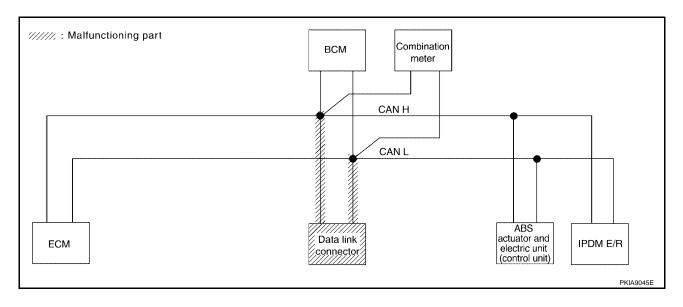


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Case 3
Check data link connector circuit. Refer to <u>LAN-82</u>, "<u>Data Link Connector Circuit Check</u>" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn			SELF-DIAG RESULTS	
GELEOT GTGT	LIW Screen	diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	THEODEIG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
										PKIA8978E



CAN SYSTEM (TYPE 3)

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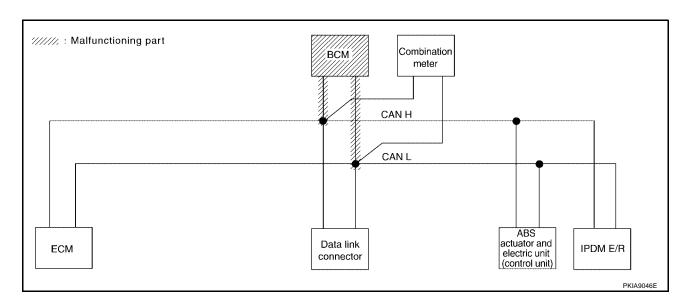
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Case 4
Check BCM circuit. Refer to <u>LAN-83</u>, "BCM Circuit Check" .

				CAN DIA	G SUPPOR	RT MNTR					
SELECT SYS	TEM screen	EM screen Initial			Rec	eive diagn			SELF-DIAG RESULTS		
OLLLOT OTC	TEW SCIECT		Transmit diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SEEL BIMONEOGETS		
ENGINE	_	NG	UNKWN	_	UNIVWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	UNKWN	_	-	_	_	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	UNIVAN	_	_	_	CAN COMM CIRCUIT (UV00)	_	

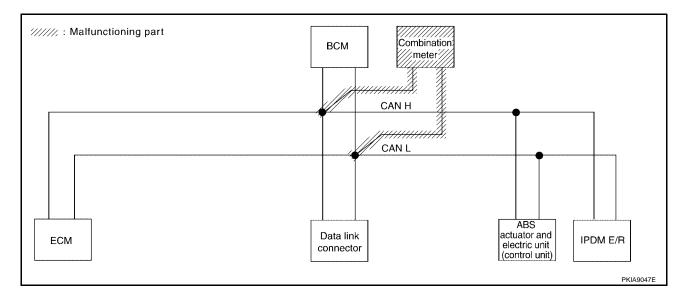


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Case 5
Check combination meter circuit. Refer to <u>LAN-83</u>, "Combination Meter Circuit Check" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	SYSTEM screen Initi		Transmit		Rec	eive diagn	osis		SELF-DIAG RESULTS	
OLLEGI GIGI	EN GOIGGI	diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		THEOGETO
ENGINE	_	NG	UNKWN	-	UNKWN	U NK WN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNRWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	OM E/R No indication - UNKWN		UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
										PKIA8980E



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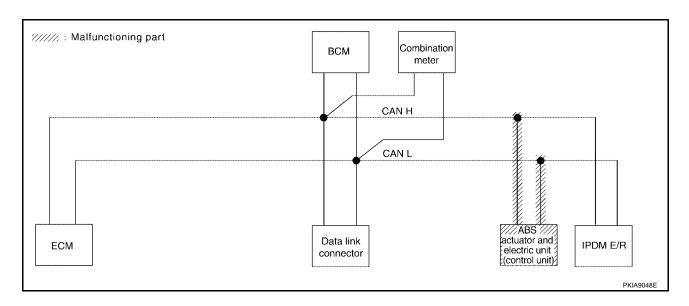
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Case 6

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-84, "ABS Actuator and Electric Unit (Control Unit) Circuit Check"</u>.

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Red	eive diagn	osis		SELF-DIAG RESULTS	
OLLEGI GIGI	LW 3010011		diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		THEODERO
ENGINE	_	NG	UNKWN		UNKWN	UNKWN	UNIKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN001)
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	V	UNIMN	UNIVON	_	_	_	-	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	/R No indication — UNKWN		UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

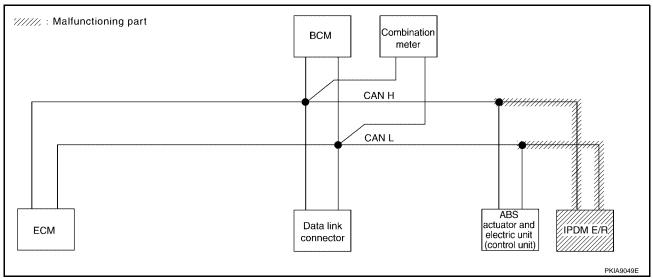


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Case 7
Check IPDM E/R circuit. Refer to <u>LAN-84, "IPDM E/R Circuit Check"</u>.

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	ELECT SYSTEM screen		Transmit		Red	eive diagn			SELF-DIAG RESULTS	
OLLLO1 0101	EW 3010011	Initial diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	GEET-DIAC	THEODEIG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication — UNKWN			UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U V 00)	_
										PKIA8982E



Case 8
Check CAN communication circuit. Refer to <u>LAN-85</u>, "CAN Communication Circuit Check".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	ELECT SYSTEM screen		Transmit		Rec	eive diagn			SELF-DIAG RESULTS	
OLLEGI GIGI	LIVI SCICCII	Initial diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SELI-DIAC	TIEGOLIO
ENGINE	_	NG	UNK WN	_	UNKWN	UNIONN	UNIONN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	₩	UN K ₩N	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U V 00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (UN00)	_
	•					•				PKIA8983E

[CAN]

Case 9

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-88, "IPDM E/R Ignition Relay Circuit Check".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYS	TEM screen	Initial	Transmit		Rec	eive diagn			SELE-DIAG BESULTS	
OLLEO1 010	I LIVI SCIECTI		diagnosis	ECM	BCM /SEC	METER /M&A			SEEL BINGTHESSELS	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNI W NN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U N01)
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	I
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	E/R No indication - UNI		UNKWN	UNKWN	UNKWN	_	_	1	CAN COMM CIRCUIT (U1000)	_

Case 10

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-88, "IPDM E/R Ignition Relay Circuit Check".

				CAN DIA	G SUPPOR	RT MNTR					
SELECT SYS	ELECT SYSTEM screen		Transmit		Rec	eive diagn			SELF-DIAG RESULTS		
OLLEGI GIG	TEN Screen	Initial diagnosis	diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SEEL BING HESSELS		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)	
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (UV00)	_	
IPDM E/R	DM E/R No indication —		UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_	

Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) UKS001XU

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector E28

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect harness connector M7.
- 2. Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M7 terminals 10 (L), 9 (P).

6 (L) - 10 (L)

: Continuity should exist.

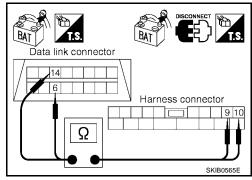
14 (P) - 9 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

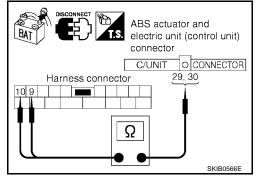
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E28 terminals 10 (L), 9 (P) and ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L), 29 (P).

10 (L) - 30 (L) : Continuity should exist. 9 (P) - 29 (P) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



UKS001XV

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

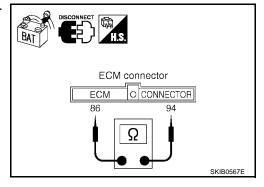
- 1. Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



UKS001XW

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

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2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

: Approx. 54 - 66 Ω

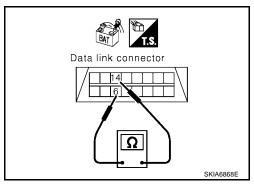
OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG

>> Repair harness between data link connector and combination meter.



UKS001XX

BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect battery cable at negative terminal.

3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect BCM connector.

2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

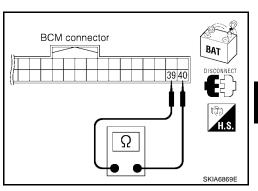
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace BCM. Refer to <u>BCS-20</u>, "Removal and Installation of <u>BCM"</u>.

NG >> Repair harness between data link connector and BCM.



UKS001XY

Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

: Approx. 54 - 66 Ω

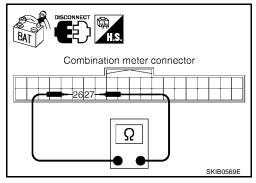
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001XZ

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L) and 29 (P).

: Approx. 54 - 66 Ω

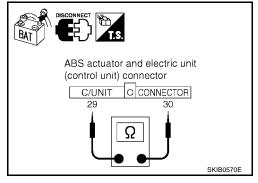
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between harness connector E28 and ABS actuator and electric unit (control unit).



UKS001Y0

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

: **Approx. 108 - 132** Ω

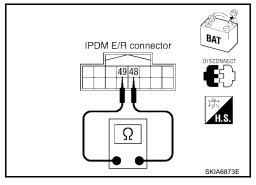
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between harness connector E28 and IPDM E/R.



CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- **ECM**
- **BCM**
- Combination meter
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

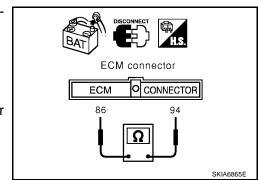
- 1. Disconnect following connectors.
- ECM connector
- Harness connector F59
- Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

: Continuity should not exist.

OK or NG

>> GO TO 3. OK

NG >> Repair harness between ECM and harness connector



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3. CHECK HARNESS FOR SHORT CIRCUIT

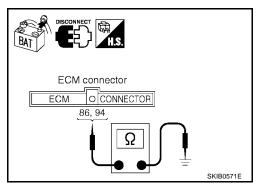
Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

> : Continuity should not exist. 94 (L) - Ground 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector F59.



4. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
- BCM connector
- Combination meter connector
- Harness connector M7
- 2. Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L). 14 (P) and ground.

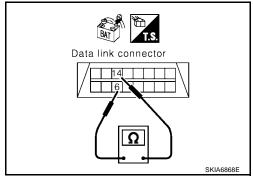
> 6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 6.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



Data link connector

6

6, 14

SKIA6874F

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

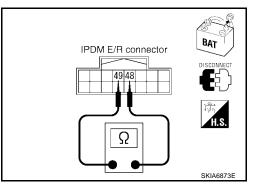
48 (L) - 49 (P)

: Continuity should not exist.

OK or NG

OK NG >> GO TO 7.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

48 (L) - Ground : Continuity should not exist.
49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R

IPDM E/R connector BAT DISCONNECT H.S. SKIA6879E

8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- 3. Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

9. CHECK SYMPTOM

- 1. Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

ECM and IPDM E/R

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10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

UKS001Y2

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

CAN SYSTEM (TYPE 4)

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CAN SYSTEM (TYPE 4)

PFP:23710

Component Parts and Harness Connector Location

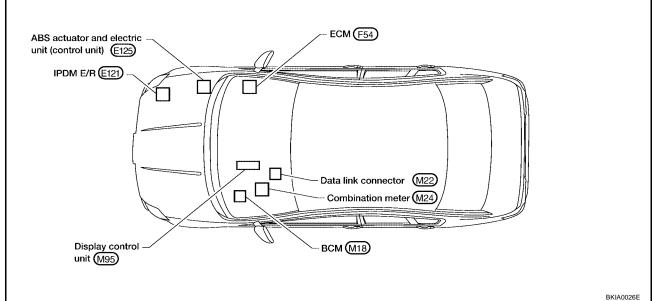
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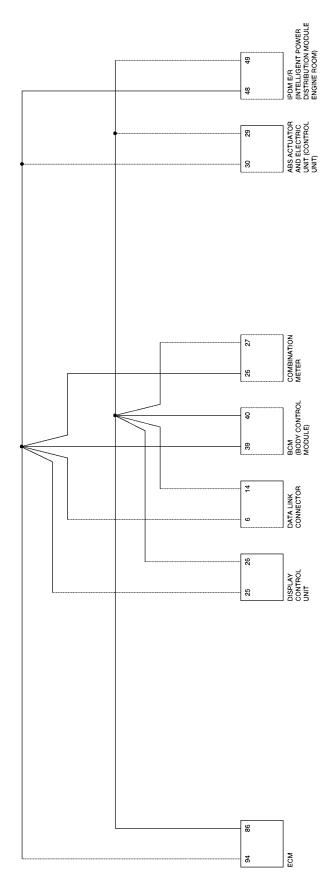


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Schematic UKS001VO



Wiring Diagram - CAN -

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LAN-CAN-10

: DATA LINE

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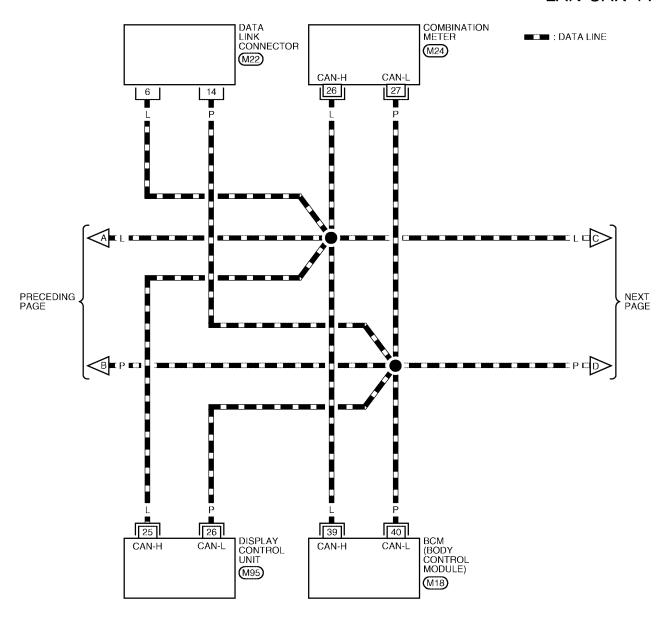
M

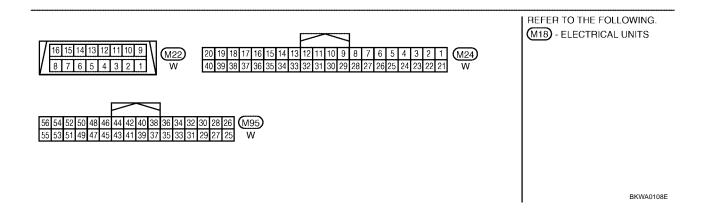
1 2 3 4 5 6 7 8 9 10 11 F59 12 13 14 15 16 17 18 19 20 21 22 23 24 W

REFER TO THE FOLLOWING. F54 - ELECTRICAL UNITS

BKWA0107E

LAN-CAN-11





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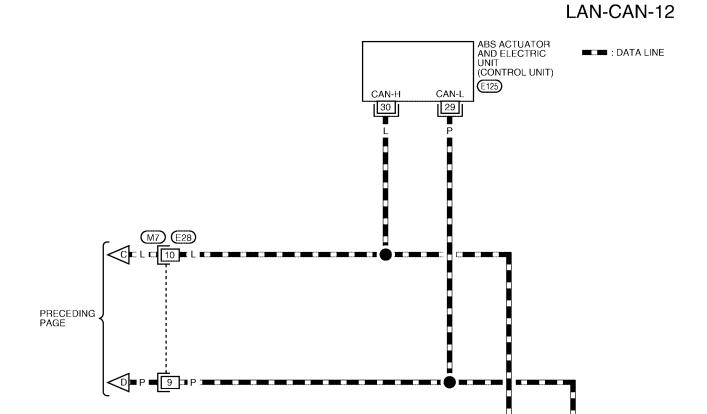
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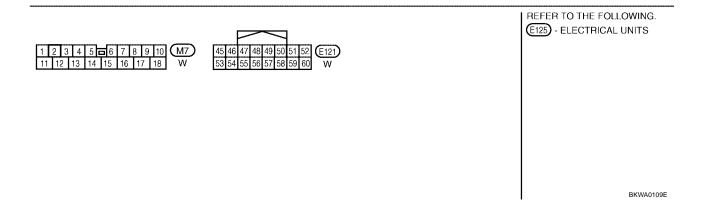
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

(E121)

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CHECK SHEET

NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

				CAN DIA	G SUPPO	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Red	ceive diagn	osis		SELF-DIAC	RESULTS
		diagnosis	l	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCU (U1001)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
			Attach copy LECT SYS				Attach co			
Display	control unit Tr	anslation S	Sheet: Rew	rite the foll	owing nam	nes, and pu	t a check r	nark on the	above check shee	t table.
Confirmation/Adju	stment Displa	ay Ch	neck sheet	table Disp	lay C	Confirmation	n/Adjustme	nt Display		table Display
CAN COMM				agnosis		AN CIRC 5			METE	R/M&A
CAN CIRC 1 CAN CIRC 2		1	Transmit	diagnosis CM		CAN CIRC 6 CAN CIRC 7			IPD/	 /I E/R
CAN CIRC 3				CM		CAN CIRC 8			1	_
CAN CIRC 4			_	_	С	CAN CIRC 9)		-	_
			CAN		Attach co isplay cont PPORT Mo		eck sheet			

CAN SYSTEM (TYPE 4)

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Attach copy of	Attach copy of	Attach copy of	Attach copy of
ENGINE	BCM	ABS	IPDM E/R
SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS	SELF-DIAG RESULTS
Attach copy of	Attach copy of	Attach copy of	Attach copy of
ENGINE	BCM	ABS	IPDM E/R
CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT	CAN DIAG SUPPORT
MNTR	MNTR	MNTR	MNTR

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CHECK SHEET RESULTS (EXAMPLE)

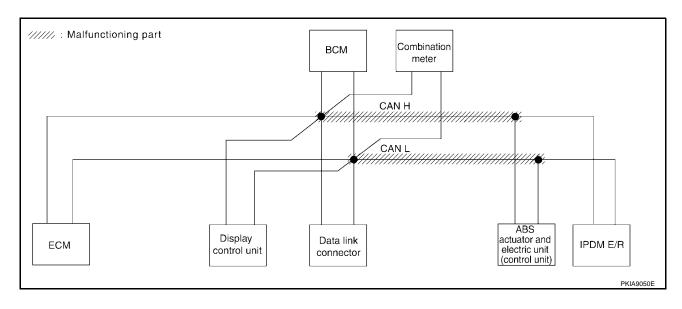
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-104, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
0222010101	2111 0010011		diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		111200210
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UN W WN	∩ νκ ⁄ων	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNK WN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	Π ΝΚ ⁄ΝΝ	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNWWN	_	_	_	_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_



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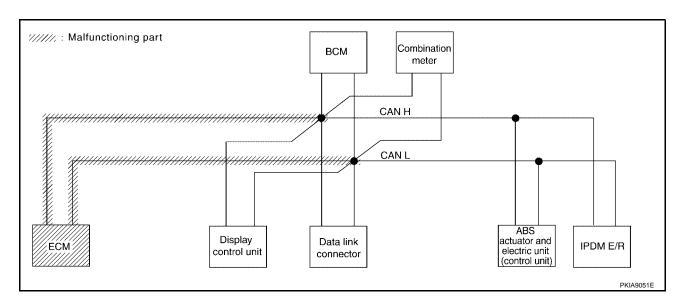
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Case 2
Check ECM circuit. Refer to <u>LAN-105</u>, "ECM Circuit Check".

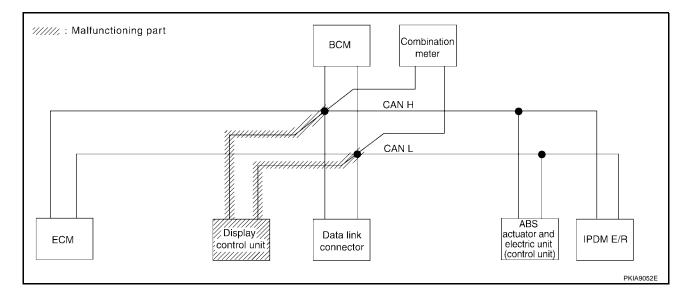
				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
		diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNK WN	1	UN W NN	UN W WN	UN K WN	∩ νκ ⁄ων	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNK WN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (UV)00)	_
IPDM E/R	No indication	_	UNKWN	UNK WN	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_



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Case 3
Check display control unit circuit. Refer to <u>LAN-106</u>, "<u>Display Control Unit Circuit Check"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	BESULTS
	00.00.1	diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
Display control unit	_	NG	υ ικ /wν	UNK VN	UNK W N	Π ΝΚ ⁄ΛΝ	_	UNK W N	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



CAN SYSTEM (TYPE 4)

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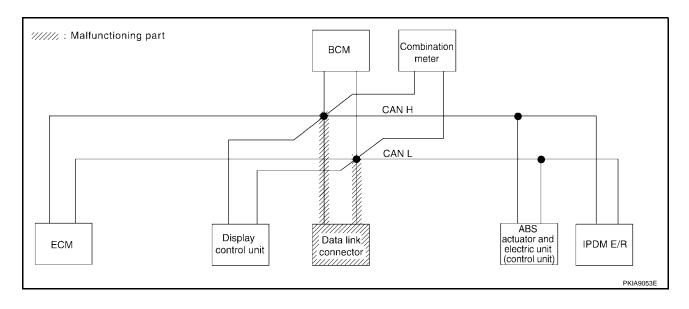
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Case 4
Check data link connector circuit. Refer to <u>LAN-106</u>, "<u>Data Link Connector Circuit Check</u>".

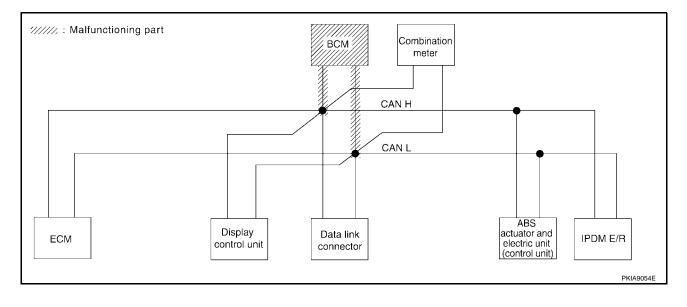
				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Red	eive diagn	osis		SELE-DIAG	RESULTS
OLLLOT GTOT	LIW SCICCII	diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		TILOULIO
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



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Case 5
Check BCM circuit. Refer to <u>LAN-107, "BCM Circuit Check"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
322231 3131	2 55.0011		diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS			
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNIX WN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_		CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNIMN	_	_	_	CAN COMM CIRCUIT (UN00)	_



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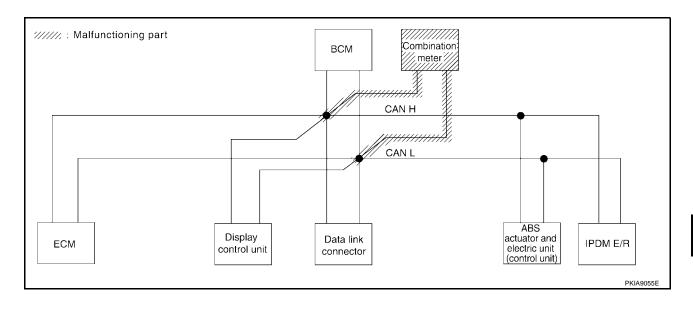
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Case 6

Check combination meter circuit. Refer to <u>LAN-107</u>, "Combination Meter Circuit Check" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	PEGITO
022201 0101	EIVI GOIGGII		diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	UNIXWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	-	_	_	CAN COMM CIRCUIT (U1000)	_

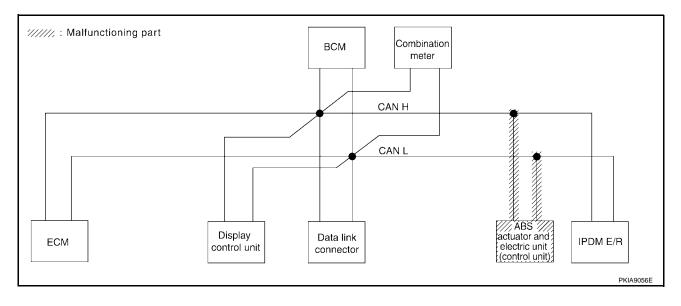


LAN

Case 7

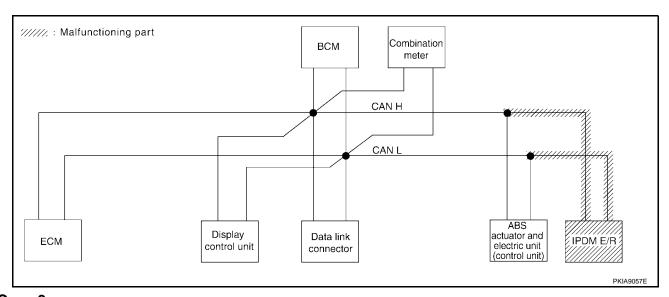
Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-108</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
522201 5101	2 00/00/1	diagnosis		ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	₩	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U 1000)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



Case 8 Check IPDM E/R circuit. Refer to $\underline{\sf LAN-108}$, "IPDM E/R Circuit Check" .

				CAN DIA	G SUPPOF					
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
			diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNIV	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication		UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U 1000)	_



				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	امنانسا	Transmit		Rec	eive diagn	osis		SELF-DIAG	DESILITS
OLLLOT GTOT	LIVI SCIECTI	Initial diagnosis	Transmit diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		THESOLIS
ENGINE	_	NG	UNK WN	_	UNION	UNKWN	UNKWN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
Display control unit	_	NG	UN K ∕WN	UNK WN	UNKWN	UNKWN	_	UNK WN	_	-
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	W	UNK WN	UNIONN	_	_	_	_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (UN00)	_

Revision: March 2005 LAN-103 2005 Altima

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Case 10

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-112, "IPDM E/R Ignition Relay Circuit Check".

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
322231 3101	EIW GOTGOTT		diagnosis	ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI BIAG	111200210
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNIONN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Case 11

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-112, "IPDM E/R Ignition Relay Circuit Check".

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR								
			Transmit - diagnosis	Receive diagnosis					SELF-DIAG RESULTS	
				ECM	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
Display control unit	_	NG	UNKWN	UNKWN	UNKWN	UNKWN	_	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication		UNKWN	UNKWN	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector E28

OK or NG

OK >> GO TO 2.

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2. CHECK HARNESS FOR OPEN CIRCUIT

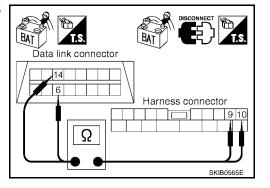
- 1. Disconnect harness connector M7.
- 2. Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M7 terminals 10 (L), 9 (P).

6 (L) - 10 (L) 14 (P) - 9 (P) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E28 terminals 10 (L), 9 (P) and ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L), 29 (P).

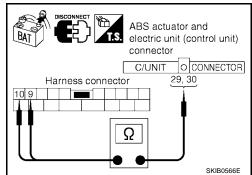
10 (L) - 30 (L) 9 (P) - 29 (P) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to <u>LAN-6, "TROUBLE DIAGNOSES WORK FLOW"</u>.

NG >> Repair harness.



UKS001VR

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, connector side and harness side).
- ECM connector
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

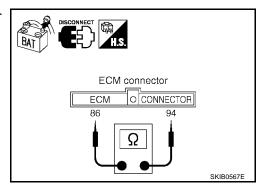
- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

: Approx. 108 - 132 Ω 94 (L) - 86 (P)

OK or NG

OK >> Replace ECM.

NG >> Repair harness between ECM and data link connector.



UKS001VS

Display Control Unit Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. check harness for open circuit

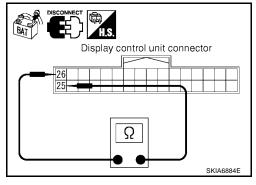
- 1. Disconnect display control unit connector.
- Check resistance between display control unit harness connector M95 terminals 25 (L) and 26 (P).

OK or NG

OK >> Replace display control unit.

NG

>> Repair harness between data link connector and display control unit.



UKS001VT

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

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2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

: Approx. 54 - 66 Ω

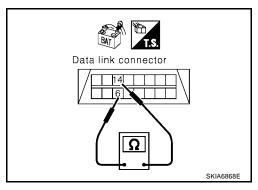
OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG

>> Repair harness between data link connector and combination meter.



UKS001VU

BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect battery cable at negative terminal.

Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Disconnect BCM connector.

2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

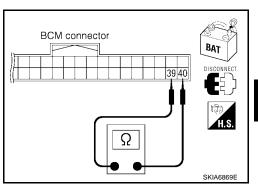
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM".

NG >> Repair harness between data link connector and BCM.



UKS001VV

Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

: Approx. 54 - 66 Ω

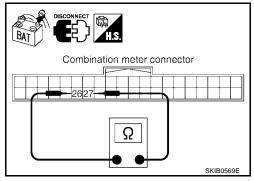
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

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1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L) and 29 (P).

: Approx. 54 - 66 Ω

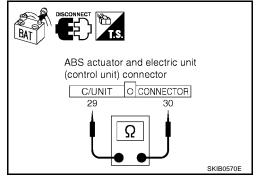
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between harness connector E28 and ABS actuator and electric unit (control unit).



UKS001VX

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

: Approx. 108 - 132 Ω

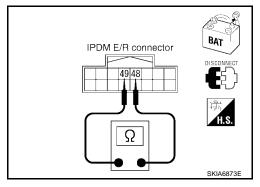
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between harness connector E28 and IPDM E/R.



CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- **ECM**
- Display control unit
- **BCM**
- Combination meter
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

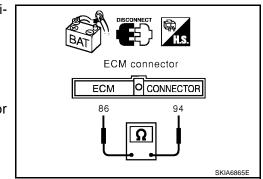
- 1. Disconnect following connectors.
- ECM connector
- Harness connector F59
- Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness between ECM and harness connector F59.



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3. CHECK HARNESS FOR SHORT CIRCUIT

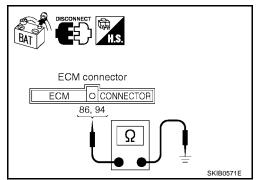
Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness between ECM and harness connector F59.



4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Display control unit connector
- BCM connector
- Combination meter connector
- Harness connector M7
- 2. Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

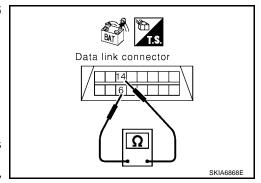
OK or NG

NG

OK >> GO TO 6.

>> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M71
- Harness between data link connector and Display control unit
- Harness between data link connector and BCM
- Harness between data link connector and combination meter
- Harness between data link connector and harness connector M7



Data link connector

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6.

6. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

48 (L) - 49 (P)

: Continuity should not exist.

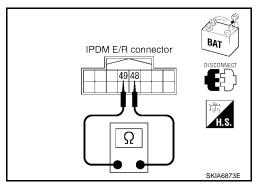
OK or NG

OK

>> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

> 48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK

NG

>> GO TO 8.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R

IPDM E/R connector 48, 49 SKIA6879E

8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

ECM and IPDM E/R LKIA0037E

9. CHECK SYMPTOM

- 1. Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

>> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced" NG

LAN-111 Revision: March 2005 2005 Altima

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10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- Display control unit
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

UKS001VZ

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to <u>PG-25</u>, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

CAN SYSTEM (TYPE 5)

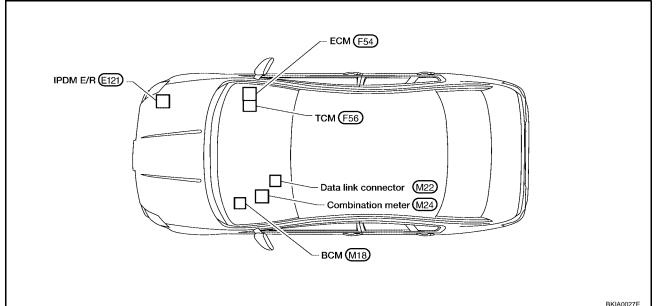
[CAN]

CAN SYSTEM (TYPE 5)

PFP:23710

Component Parts and Harness Connector Location

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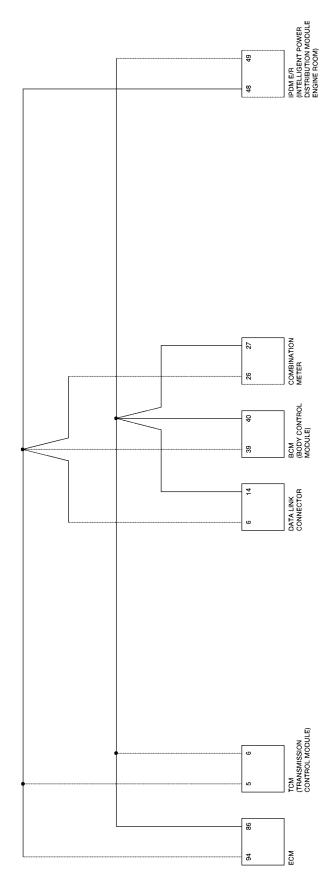
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Schematic UKS001VC



Wiring Diagram - CAN -

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LAN-CAN-13

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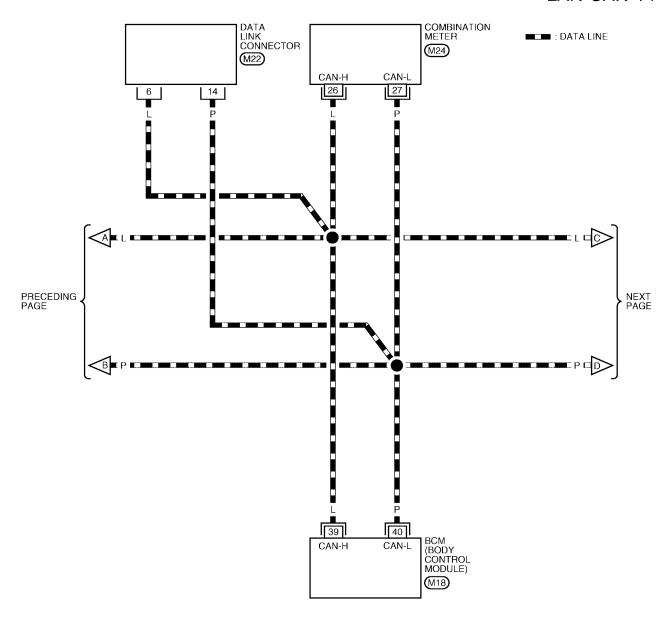
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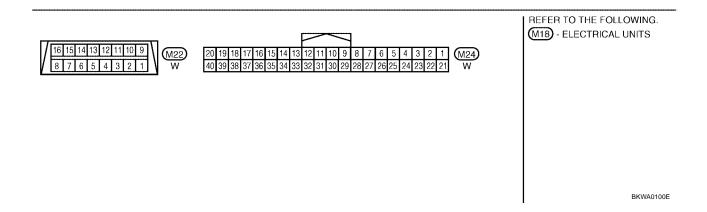
1	2	3	4	5	6	Ш	=	7	8	9	10	11	(F59)
12	13	14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING. (F54), (F56) - ELECTRICAL UNITS

BKWA0099E

LAN-CAN-14





LAN-CAN-15

■■■ : DATA LINE

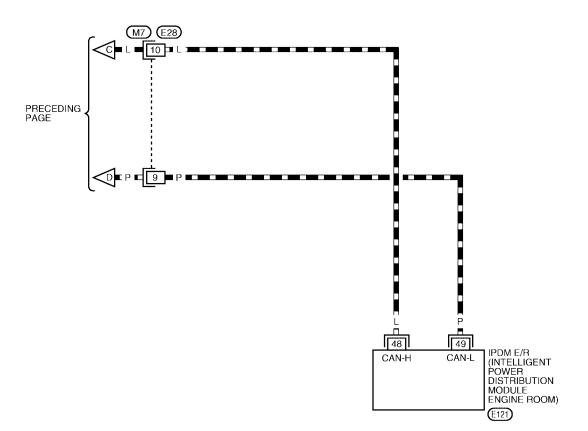
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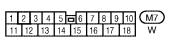


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BKWA0101E

CHECK SHEET

NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

				CAN DIA	G SUPPOI	RT MNITP				
SELEC:	T SYSTEM screen	Initial	Transmit	OAN DIA		ceive diagn	osis		SELF-DIAG	RESULTS
SLLLO	TOTOTEW SCIECT	diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		THEODETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCU (U1001)
¥/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
			Altach copy LECT SYS				Attach co SELECT S			
	Attach copy of ENGINE SELF-DIAG RESU			ch copy of A/T AG RESU			ch copy of BCM AG RESUI	LTS	Attach copy o IPDM E/R SELF-DIAG RESU	
	Attach copy of ENGINE CAN DIAG SUPPO MNTR		CAN DIA	ch copy of A/T AG SUPPC MNTR		CAN DIA	ch copy of BCM IG SUPPC MNTR	PRT	Attach copy o IPDM E/R CAN DIAG SUPP MNTR	

CHECK SHEET RESULTS (EXAMPLE)

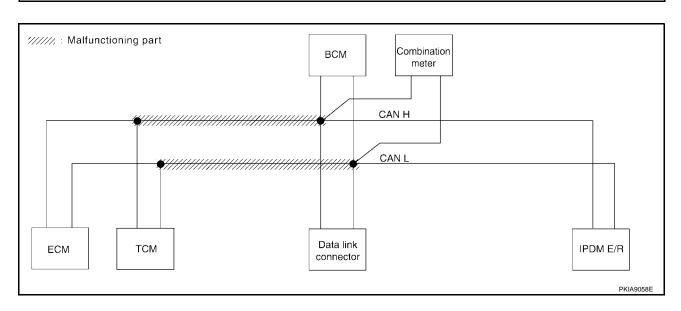
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-126</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	PESHITS
322201 3131	initial		diagnosis	ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		THEODERO
ENGINE	_	NG	UNKWN	-	UNKWN	UNI	UNKWN	UNIXWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
A/T	_	NG	UNKWN	UNKWN	_	_	_	-	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNIVWN	_	UNKWN	_	_	CAN COMN CIRCUIT	



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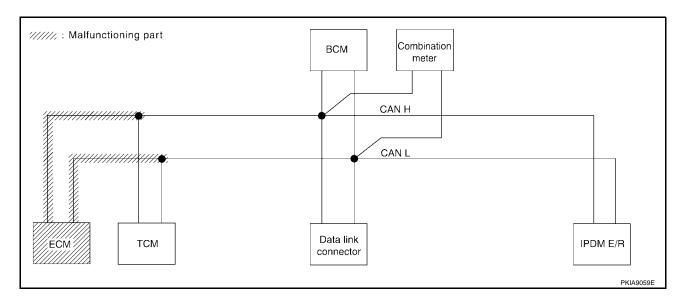
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Case 2 Check ECM circuit. Refer to <u>LAN-127</u>, "ECM Circuit Check" .

				CAN DIA	G SUPPOR	RT MNTR			SELF-DIAG RESULTS		
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis				
OLLLOT OTOT	Thinks		diagnosis	ECM	TCM	BCM /SEC	METER /M&A	IPDM E/R		THEODEIG	
ENGINE	_	NG	UNI W WN	ı	UNI WN	UN A WN	UNKWN	UNIKWN	CAN COMM CIRCUIT (U 100)	CAN COMM CIRCUIT (UN01)	
A/T	_	NG	UNKWN	_	_	_	UNKWN	_	_	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNIVWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U 100)	_	



CAN SYSTEM (TYPE 5)

[CAN]

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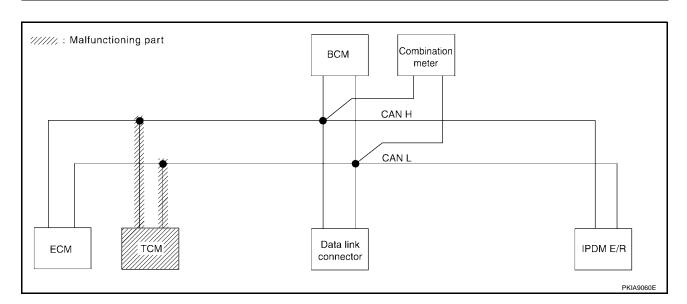
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Case 3
Check TCM circuit. Refer to <u>LAN-127, "TCM Circuit Check"</u>.

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYS	TEM screen	Initial	Transmit		Red	eive diagn	osis		SELF-DIAG	RESULTS
022201 010	TEM SCIECT	diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		TILOULIS
ENGINE	_	NG	UNKWN	_	UNION	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U 100)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	_	_	_	_	_	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

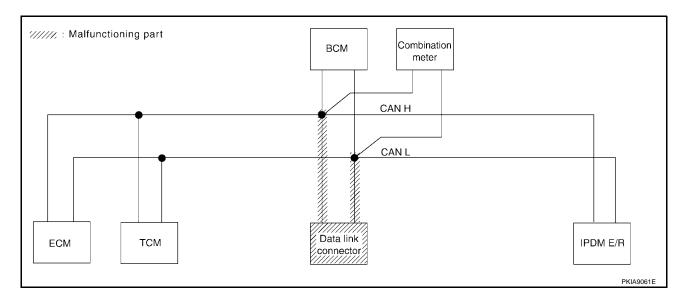


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Case 4
Check data link connector circuit. Refer to <u>LAN-128</u>, "<u>Data Link Connector Circuit Check"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYS	SELECT SYSTEM screen Initial diagnosis		Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
SEEEO1 STS			diagnosis	ECM	тсм	BCM /SEC	METER /M&A	IPDM E/R		THEODEIG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	CAN COMM CIRCUIT (U1000)	_



CAN SYSTEM (TYPE 5)

[CAN]

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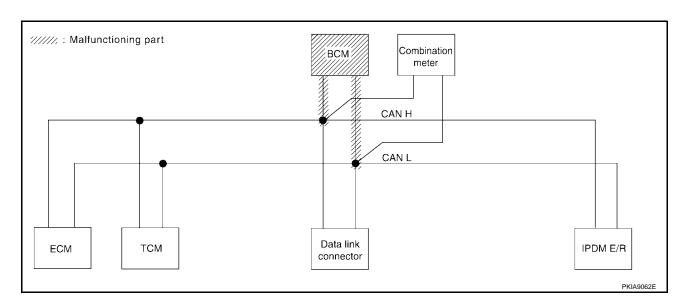
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Case 5
Check BCM circuit. Refer to <u>LAN-128</u>, "BCM Circuit Check" .

				CAN DIA							
SELECT SYSTEM screen		Initial	Transmit		Rec	eive diagno	osis		SELE-DIAG RESULTS		
OLLEO1 O16	Initial		diagnosis	ECM	тсм	BCM /SEC	METER /M&A	IPDM E/R		THESOLIS	
ENGINE	_	NG	UNKWN	_	UNKWN	UNIVAN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
A/T	_	NG	UNKWN	UNKWN	_	-	UNKWN	_	CAN COMM CIRCUIT (U1000)	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNION	_	_	CAN COMM CIRCUIT (UN00)	_	

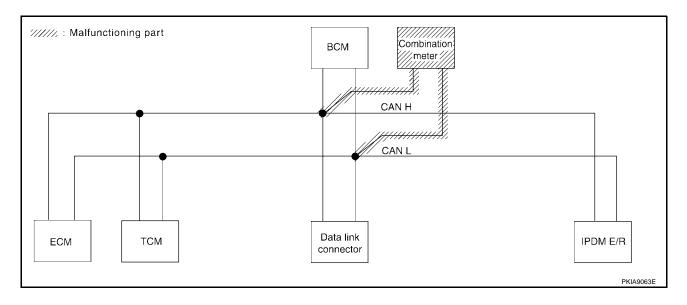


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Case 6
Check combination meter circuit. Refer to <u>LAN-129</u>, "Combination Meter Circuit Check" .

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYS	TEM screen	Initial Transmit		Receive diagnosis SELF-DIAG R		RESUITS				
OLLEGI GIG	Initial		diagnosis	ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		THEODEIO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UN W N	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
										PKIA8991E



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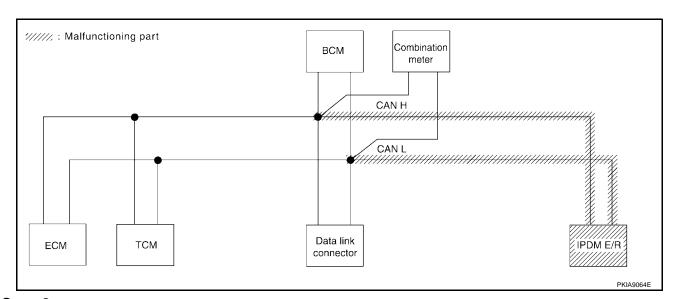
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Case 7
Check IPDM E/R circuit. Refer to LAN-129, "IPDM E/R Circuit Check" .

				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYS	TEM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
GELEOT OTC	TEN SCIECT		Transmit diagnosis	ECM	TCM	BCM /SEC	METER /M&A	IPDM E/R		TILOULIO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNION	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U V 01)
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNION	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	CAN COMM CIRCUIT (U 100)	_



				CAN DIA	G SUPPOR	RT MNTR					
SELECT SV	STEM screen	Initial	Initial Transmit		Red	eive diagn	osis		SELF-DIAG RESULTS		
OLLEOT OT	JI LIVI SCIECTI		Transmit diagnosis	ECM	TCM	BCM /SEC	METER /M&A	IPDM E/R		THEODEIG	
ENGINE	_	NG	UNMWN	_	UNKWN	UNIWN	UNIXWN	UNIKWN	CAN COMM CIRCUIT (UV00)	CAN COMM CIRCUI (UN01)	
A/T	_	NG	_	_	_	_	_	_	_	_	
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	-	
IPDM E/R	No incocation	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U 100)	_	

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Revision: March 2005 LAN-125 2005 Altima

Case 9

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-133, "IPDM E/R Ignition Relay Circuit Check".

				CAN DIA	G SUPPOR	RT MNTR					
SELECT SYS	SELECT SYSTEM screen Ini		Transmit		Rec	eive diagn	osis		SELF-DIAG RESULTS		
GELEOT OTO			diagnosis	ECM	ТСМ	BCM /SEC	PDM E/			TILOULIO	
ENGINE	_	NG	UNKWN	_	UNWWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (UV00)	CAN COMM CIRCUIT (UN01)	
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_	
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	-	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_	

Circuit Check Between TCM and Data Link Connector

UKS001VE

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect TCM connector and harness connector F59.
- Check continuity between TCM harness connector F56 terminals 5 (L), 6 (P) and harness connector F59 terminals 23 (L), 22 (P).

5 (L) - 23 (L)

: Continuity should exist.

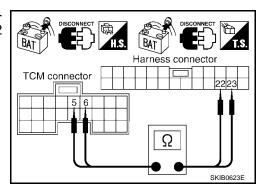
6 (P) - 22 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

Check continuity between harness connector M71 terminals 23 (L), 22 (P) and data link connector M22 terminals 6 (L), 14 (P).

23 (L) - 6 (L) : Coi

: Continuity should exist.

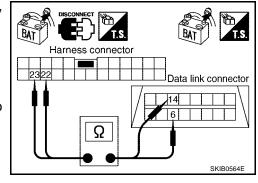
22 (P) - 14 (P)

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

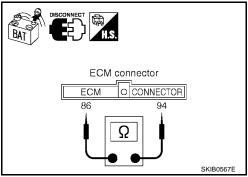
- Disconnect ECM connector. 1.
- Check resistance between ECM harness connector F54 termi-2. nals 94 (L) and 86 (P).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between harness connector F59 and ECM.



TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

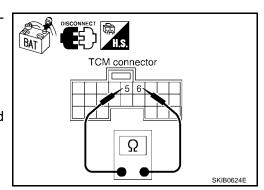
- 1. Disconnect TCM connector.
- Check resistance between TCM harness connector F56 terminals 5 (L) and 6 (P).

: Approx. 54 - 66 Ω

OK or NG

OK >> Replace TCM.

NG >> Repair harness between harness connector F59 and TCM.



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Data Link Connector Circuit Check

1. CHECK CONNECTOR

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- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

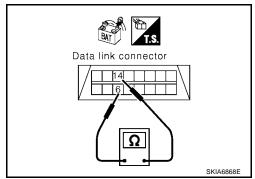
Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness between data link connector and combination meter.



BCM Circuit Check

UKS001VI

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

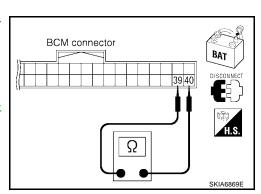
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - **40** (P) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to <u>BCS-20</u>, "Removal and Installation of <u>BCM"</u>.

NG >> Repair harness between data link connector and BCM.



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Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect combination meter connector. 1.
- Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

: Approx. 54 - 66 Ω

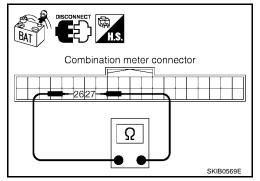
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



UKS001VK

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- IPDM E/R connector
- Harness connector E28
- Harness connector M7

OK or NG

>> GO TO 2. OK

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

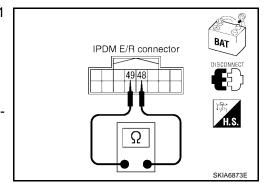
- Disconnect IPDM E/R connector. 1.
- Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

: Approx. 108 - 132 Ω

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and data link connector.



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UKS001VL

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- ECM
- TCM
- BCM
- Combination meter
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- TCM connector
- Harness connector F59
- 2. Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

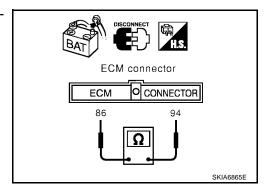
94 (L) - 86 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

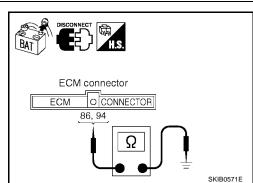
94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- BCM connector
- Combination meter connector
- Harness connector M7
- Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

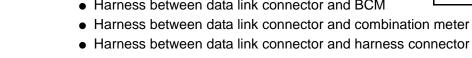
6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and harness connector M7



5. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

> 6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

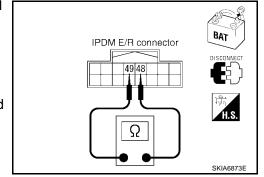
- Disconnect IPDM E/R connector. 1.
- Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector E28 and IPDM E/R.



Data link connector SKIA6868E

Data link connector

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6, 14

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SKIA6874E

7. CHECK HARNESS FOR SHORT CIRCUIT

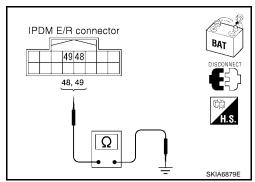
Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector E28 and IPDM E/R.



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

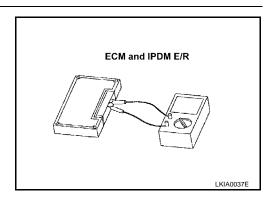
- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- 3. Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)	
ECM	94 - 86	108 - 132	
IPDM E/R	48 - 49	108 - 132	

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.



9. снеск зумртом

- 1. Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- Connect battery cable at negative terminal.
- Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- TCM
- BCM
- Combination meter
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

CAN SYSTEM (TYPE 5)

[CAN]

IPDM E/R Ignition Relay Circuit Check

UKS001VM

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

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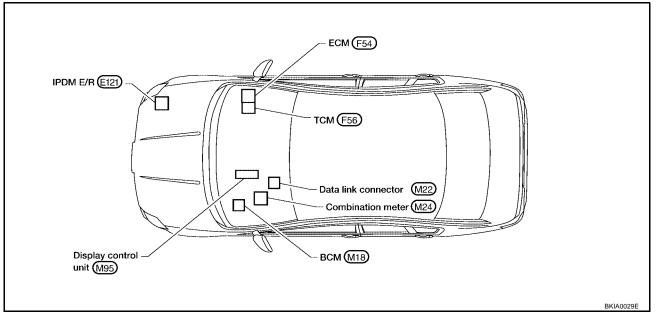
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UKS001T6

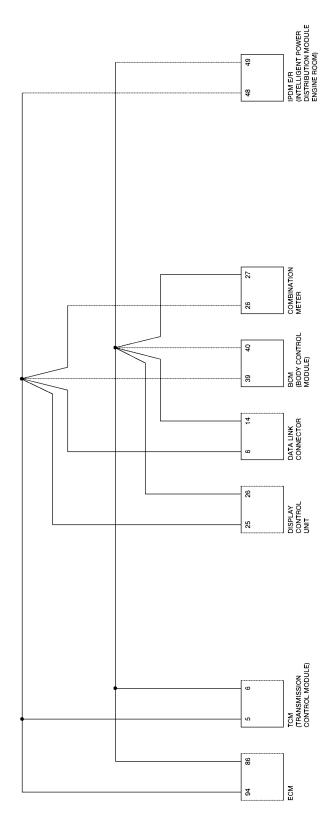
CAN SYSTEM (TYPE 6)

PFP:23710

Component Parts and Harness Connector Location



Schematic UKS001T7



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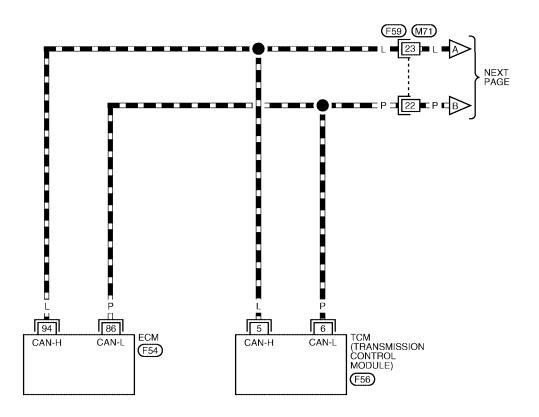
BKWA0094E

Wiring Diagram - CAN -

UKS001T8

LAN-CAN-16

: DATA LINE



													(F59)
12	13	14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING. F54 , F56 - ELECTRICAL UNITS

BKWA0095E

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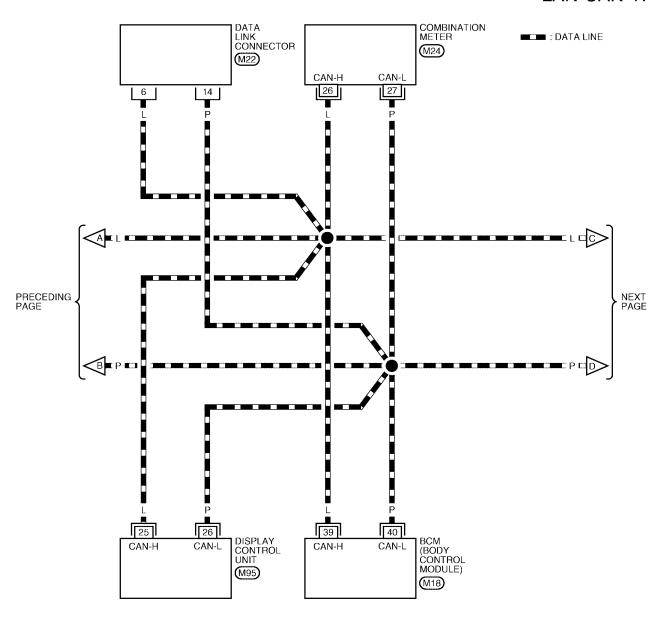
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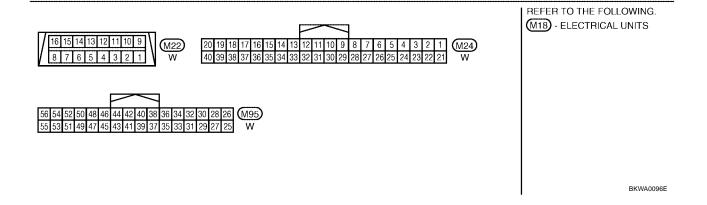
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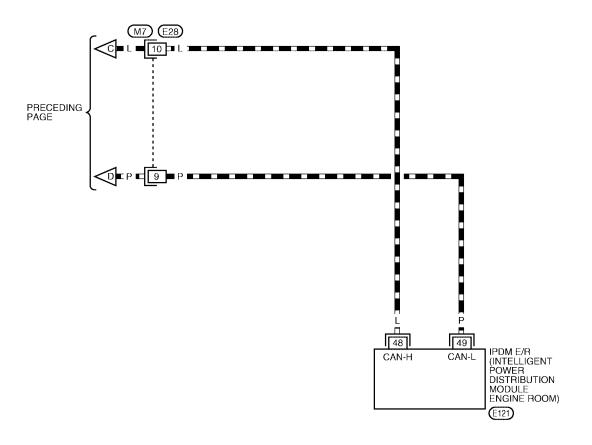
LAN-CAN-17



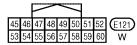


LAN-CAN-18

: DATA LINE







BKWA0097E

CAN SYSTEM (TYPE 6)

[CAN]

CHECK SHEET UKS001RR

NOTE:

				CAN DIA	G SUPPOI	RT MNTR				
SELECT SYSTE	-M screen	Initial	Transmit		Red	eive diagn	osis		SELF-DIAG	RESULTS
SEEEOT STOTE	IN SOICEN			ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		TIEGGETG
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT ((U1000)	CAN COMM CIRCU (U1001)
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
Symptoms :										
									\neg	
								,		
			Attach copy				Attach co			
			Attach copy LECT SYS			8	Attach co SELECT S			
						5				
						\$				
						\$				
						\$				
		SE	LECT SÝS	TEM			SELECT S	YŚTEM		
		anslation S	LECT SYS	rite the foll		nes, and pu	SELECT S	YSTEM	e above check sheet	
Confirmation/Adju		anslation S	LECT SYS Sheet: Rew heck sheet	rite the foll table Disp	lay C	nes, and pu	sELECT S t a check r n/Adjustme	YSTEM	Check sheet	table Display
Confirmation/Adjust		anslation S	Sheet: Rew heck sheet Initial di	rite the foll table Dispiagnosis	olay C	nes, and pu confirmation	t a check r	YSTEM	1	table Display
Confirmation/Adjust CAN COMM CAN CIRC 1		anslation S	Sheet: Rew heck sheet Initial di Transmit	rite the foll table Disp iagnosis diagnosis	olay C	nes, and pu confirmation CAN CIRC S	t a check r n/Adjustme	YSTEM	Check sheet METEF	lable Display R/M&A
Confirmation/Adjust CAN COMM CAN CIRC 1 CAN CIRC 2		anslation S	Sheet: Rew heck sheet Initial di Transmit	rite the foll table Disp iagnosis diagnosis	olay C	nes, and pu confirmation AN CIRC S AN CIRC S	t a check r n/Adjustme 5	YSTEM	Check sheet METEF IPDM	table Display R/M&A - LE/R
Confirmation/Adjust CAN COMM CAN CIRC 1		anslation S	Sheet: Rew heck sheet Initial di Transmit BC	rite the foll table Disp iagnosis diagnosis	olay C	nes, and pu confirmation CAN CIRC S	t a check r n/Adjustme 5 6 7	YSTEM	Check sheet METEF	lable Display R/M&A - I E/R

Attach copy of display control unit
CAN DIAG SUPPORT MONITOR check sheet

PKIA8891E

LAN-139 Revision: March 2005 2005 Altima

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Attach copy of Attach copy of Attach copy of Attach copy of ENGINÉ A/T ВСМ IPDM E/R SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of Attach copy of Attach copy of ENGINE BCM IPDM E/R CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR MNTR MNTR PKIA8899E

CHECK SHEET RESULTS (EXAMPLE)

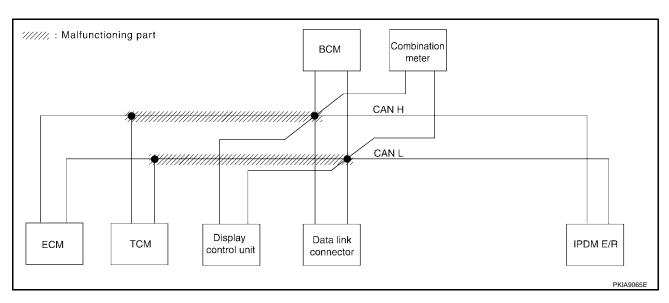
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-149</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

	-			CAN DIA						
SELECT SYSTEM screen		Initial	Transmit		Rec	eive diagn	SELF-DIAG RESULTS			
			diagnosis	ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		TILOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNWWN	UNI	UNIXWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U M01)
A/T	_	NG	UNKWN	UNKWN		_	_	_	_	_
Display control unit	-	NG	UNKWN	UNIWN	_	UNKWN	UNKWN	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNIWN	-	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNIVWN	_	UNKWN	-	_	CAN COMM CIRCUIT (UM00)	_



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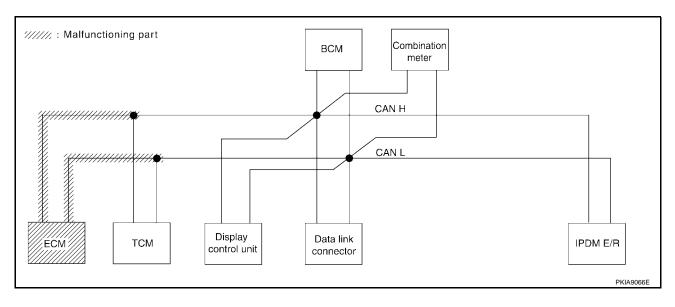
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Case 2 Check ECM circuit. Refer to <u>LAN-150</u>, "ECM Circuit Check" .

SELECT SYST	EM screen	Initial	Transmit		Red	eive diagno	SELF-DIAG RESULTS			
			diagnosis	ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UN A WN	_	UNI	UN A WN	UNKWN	UNKWN	CAN COMM CIRCUIT (U 1000)	CAN COMM CIRCUIT (UM01)
A/T	_	NG	UNKWN	_	-	_	UNKWN	_	_	-
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNIVAN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNIKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UN00)	_



CAN SYSTEM (TYPE 6)

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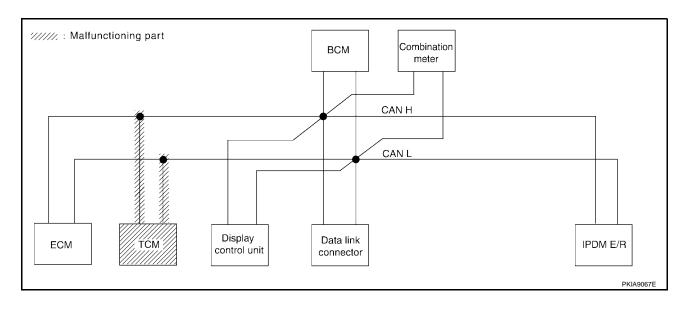
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Case 3
Check TCM circuit. Refer to <u>LAN-150</u>, "TCM Circuit Check" .

				CAN DIA	3 SUPPOF	OT MNITD				
SELECT SYSTEM screen				CAN DIA		eive diagn		SELF-DIAG RESULTS		
SELECT SYST	EIVI SCreen	Initial diagnosis	Transmit diagnosis	ECM	тсм	BCM /SEC	METER /M&A	IPDM E/R		A RESULIS
ENGINE	_	NG	UNKWN	-	UNIWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (U N01)
A/T	_	NG	_	-	-	_	_	_	_	_
Display control unit	-	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_
										PKIA8922E

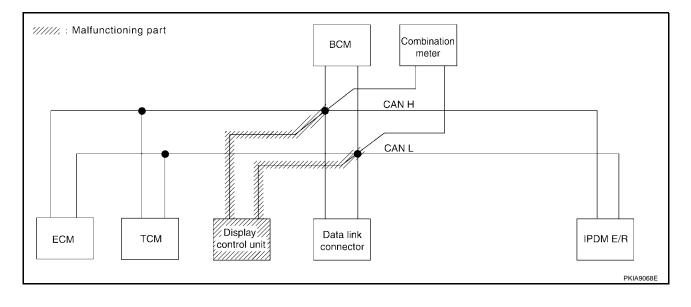


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Case 4
Check display control unit circuit. Refer to <u>LAN-151</u>, "<u>Display Control Unit Circuit Check"</u>.

				CAN DIA						
SELECT SYSTEM screen		Initial	Transmit		Rec	eive diagn	SELF-DIAG RESULTS			
		diagnosis		ECM	тсм	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNIVAN	_	UNIMAN	UNIVWN	UNAWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_



CAN SYSTEM (TYPE 6)

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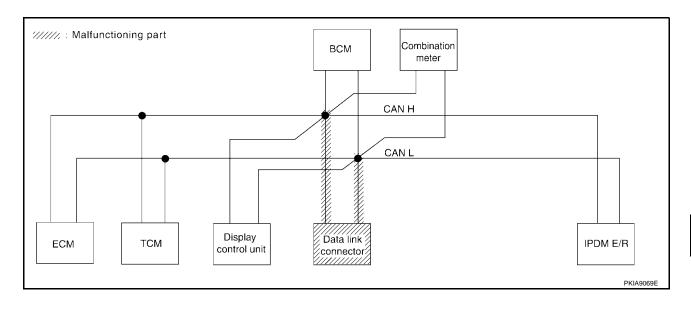
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Case 5
Check data link connector circuit. Refer to <u>LAN-151</u>, "<u>Data Link Connector Circuit Check</u>" .

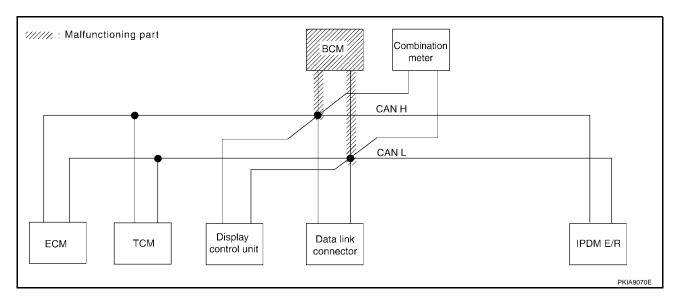
				CAN DIA	G SUPPOF	RT MNTR					
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagno	osis		SELE-DIAG	RESULTS	
0222010101				ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R			
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	UNKWN	(U1000)	CAN COMM CIRCUIT (U1001)	
A/T	_	NG	UNKWN	UNKWN	-		UNKWN	_	CAN COMM CIRCUIT (U1000)	_	
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_	
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_	



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Case 6
Check BCM circuit. Refer to <u>LAN-152</u>, "BCM Circuit Check" .

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
322231 3131	2 33.0311		diagnosis	ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UV01)
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNR WN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U 100)	_



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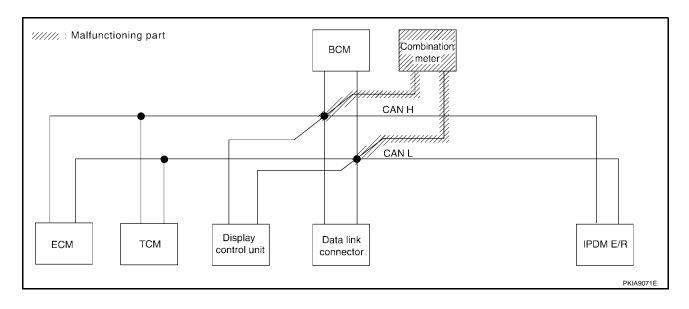
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Case 7
Check combination meter circuit. Refer to <u>LAN-152</u>, "Combination Meter Circuit Check" .

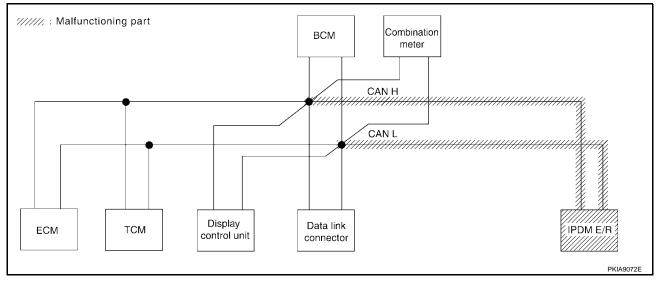
				CAN DIA	G SUPPOR	RT MNTR				
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
0222010101	2111 0010011	1		ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNKWN	-	UNKWN	UNKWN	UNIMAN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN	_	_	_	_	_	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNIWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_



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Case 8
Check IPDM E/R circuit. Refer to <u>LAN-153</u>, "IPDM E/R Circuit Check" .

				CAN DIA	G SUPPOF					
SELECT SYSTE	M screen	Initial	Transmit		Rec	eive diagn	osis		SELE-DIAG	RESULTS
	55/55/1		diagnosis	ECM	ТСМ	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN		_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNAWN		_
BCM N	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNIKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (UN00)	_



Case 9
Check CAN communication circuit. Refer to <u>LAN-154</u>, "CAN Communication Circuit Check".

				CAN DIA	G SUPPOR					
SELECT SYST	EM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
			diagnosis	ECM	тсм	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNIVWN	_	UNIKWN	UNIKWN	UNI W WN	UNIKWN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	1	_	_	_		_		
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UN ™ WN		_
BCM	No indication	NG	UNKWN	UNKWN			UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	
IPDM E/R	No indication	_	UNKWN	UNKWN		UNKWN	_		CAN COMM CIRCUIT (U 100)	

Case 10

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-157</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

				CAN DIA	G SUPPOF	RT MNTR				
SELECT SYST	FM screen	Initial	Transmit		Rec	eive diagn	osis		SELF-DIAG	RESULTS
022201 0101	2111 0010011			ECM	тсм	BCM /SEC	METER /M&A	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNIVAN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (UV00)	CAN COMM CIRCUIT (UN01)
A/T	_	NG	UNKWN	UNKWN	_	_	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	CAN COMM CIRCUIT (U1000)	_

Circuit Check Between TCM and Data Link Connector

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector and harness connector F59.
- Check continuity between TCM harness connector F56 terminals 5 (L), 6 (P) and harness connector F59 terminals 23 (L), 22 (P).

5 (L) - 23 (L)

: Continuity should exist.

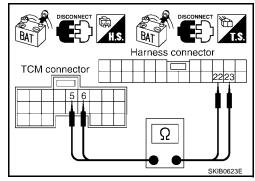
6 (P) - 22 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

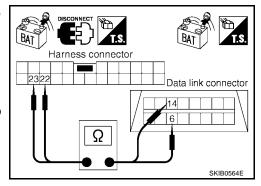
Check continuity between harness connector M71 terminals 23 (L), 22 (P) and data link connector M22 terminals 6 (L), 14 (P).

> 23 (L) - 6 (L) : Continuity should exist. 22 (P) - 14 (P) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



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ECM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF. 1.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ECM connector.
- Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

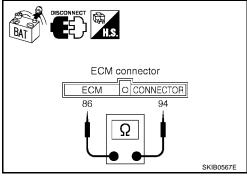
94 (L) - 86 (P) : Approx. 108 - 132 Ω

OK or NG

NG

OK >> Replace ECM.

> >> Repair harness between harness connector F59 and ECM.



TCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector. UKS001TB

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2. CHECK HARNESS FOR OPEN CIRCUIT

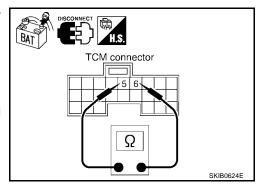
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F56 terminals 5 (L) and 6 (P).

5 (L) - 6 (P) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between harness connector F59 and TCM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect battery cable at negative terminal. 2.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

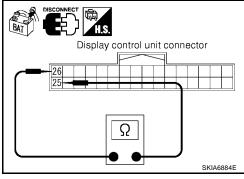
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M95 terminals 25 (L) and 26 (P).

OK or NG

OK >> Replace display control unit.

>> Repair harness between data link connector and display NG control unit.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. check harness for open circuit

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Approx. 54 -
$$66\Omega$$

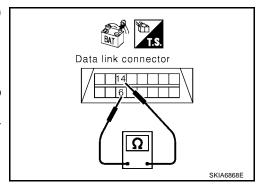
OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG

>> Repair harness between data link connector and combination meter.



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BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

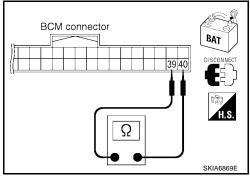
39 (L) - 40 (P) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK :

>> Replace BCM. Refer to <u>BCS-20</u>, "Removal and Installation of <u>BCM"</u>.

NG >> Repair harness between data link connector and BCM.



Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

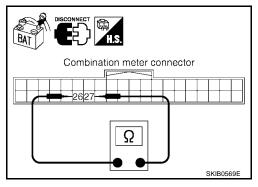
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



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IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side and harness side).
- IPDM E/R connector
- Harness connector E28
- Harness connector M7

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

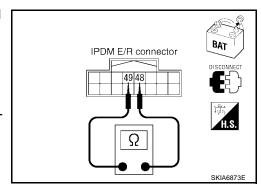
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between IPDM E/R and data link connector.



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Combination meter
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
- ECM connector
- TCM connector
- Harness connector F59
- 2. Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Continuity should not exist.

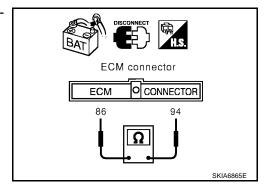
OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



3. CHECK HARNESS FOR SHORT CIRCUIT

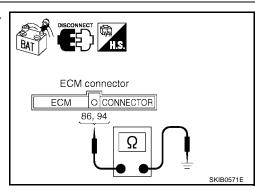
Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK NG >> GO TO 4.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- Display control unit connector
- BCM connector
- Combination meter connector
- Harness connector M7
- 2. Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P)

: Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

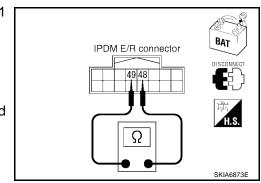
- 1. Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

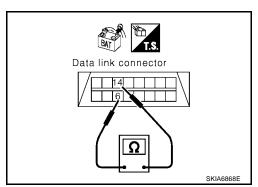
48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG >> Repair harness between harness connector E28 and IPDM E/R.





Data link connector

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6, 14

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7. CHECK HARNESS FOR SHORT CIRCUIT

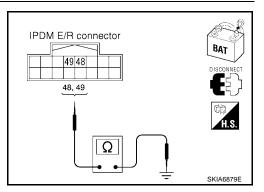
Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

> : Continuity should not exist. 48 (L) - Ground 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG >> Repair harness between harness connector E28 and IPDM E/R.



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

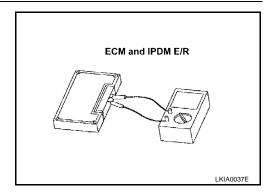
- 1. Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.



9. CHECK SYMPTOM

- Full in described symptoms on the column "Symptom" in the check sheet.
- Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

CAN SYSTEM (TYPE 6)

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10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- TCM
- Display control unit
- BCM
- Combination meter
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

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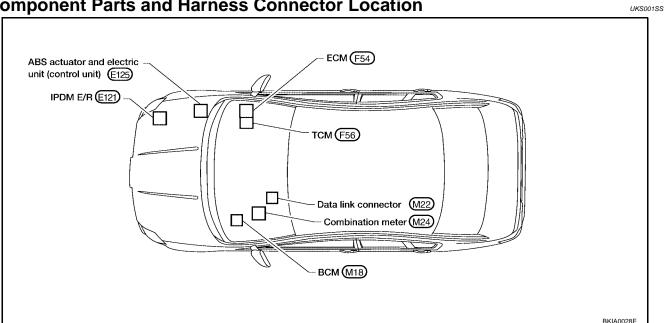
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Revision: March 2005 LAN-157 2005 Altima

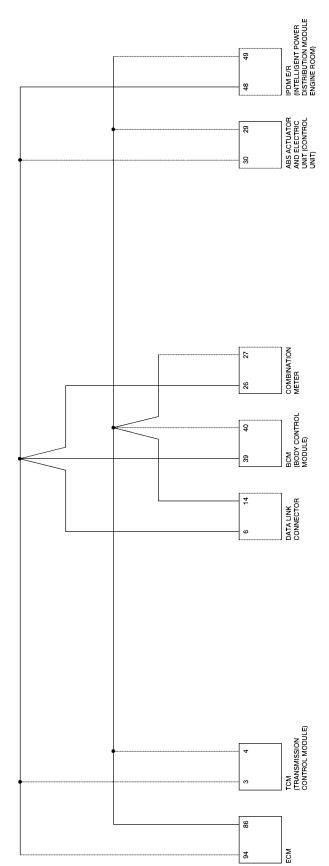
CAN SYSTEM (TYPE 7)

PFP:23710

Component Parts and Harness Connector Location



Schematic UKS001ST



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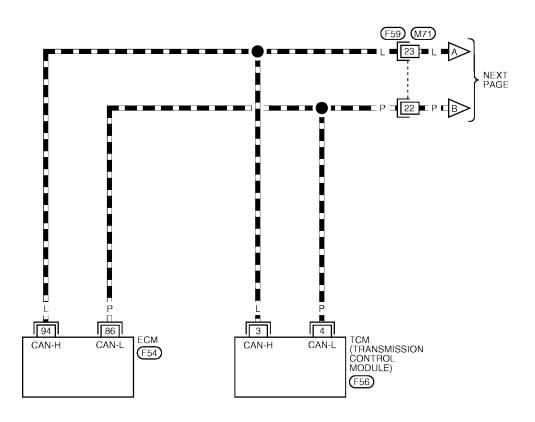
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Wiring Diagram - CAN -

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LAN-CAN-19

■□■ : DATA LINE



1	2	3	4	5	6		=	7	8	9	10	11	(F59)
12	13	14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING. (F54), (F56) - ELECTRICAL UNITS

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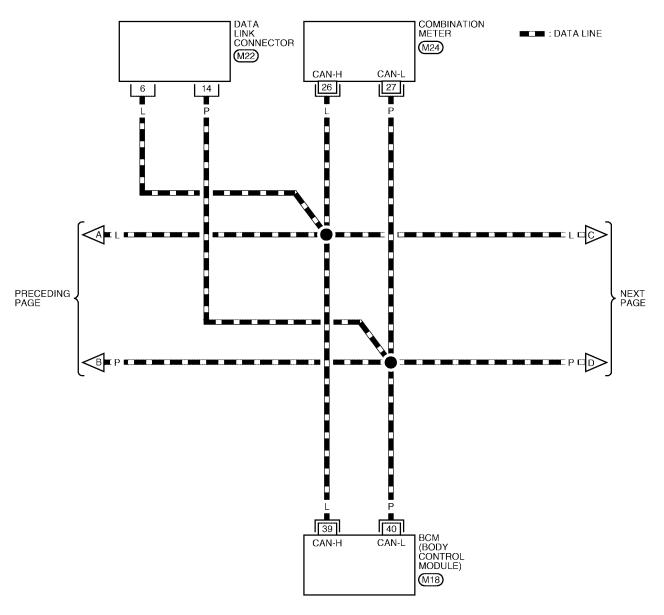
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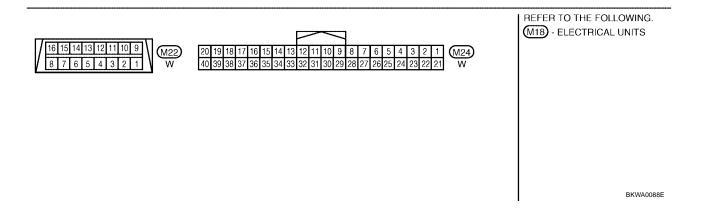
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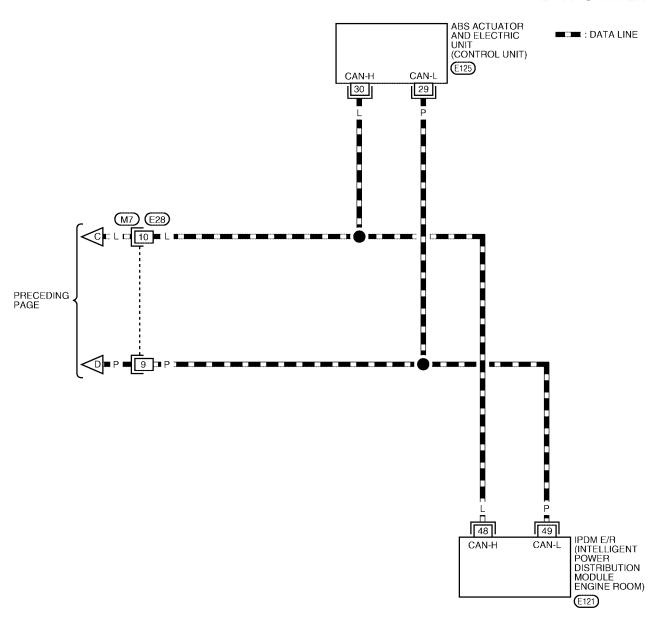
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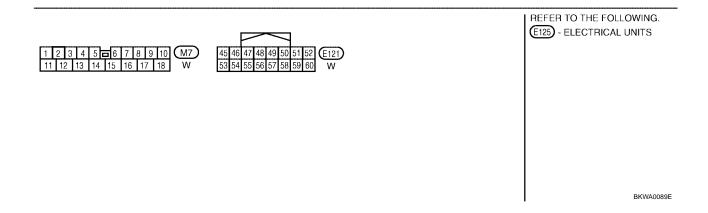
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LAN-CAN-21





CAN SYSTEM (TYPE 7)

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CHECK SHEET UKS001RQ

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Check sheet tabl	•			CAN	חואה פיי	PPORT N	MITP		_	T	
CELECT CVCT	TM 224222			CAN		Receive				OF LE DIAG	DECULTO
SELECT SYST		Initial diagnosis	Transmit diagnosis	ECM	тсм	BCM /SEC		VDC/TCS /ABS	IPDM E/R		RESULTS
NGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
СМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
BS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
Symptoms :											
			Attach co	opy of			, A	ttach cop	y of		
		8	ELECT S	YSTEM			SE	LECT SY	STEM		

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of ABS SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR	

CHECK SHEET RESULTS (EXAMPLE)

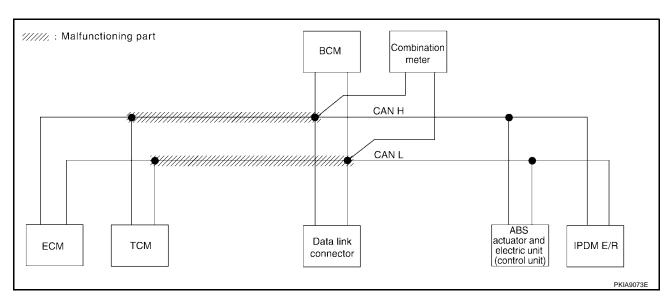
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-174</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
322201 0101	diagn		diagnosis	ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UN W NN	UNK WN	_	UNI WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U 101)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ВСМ	No indication	NG	UNKWN	UN W WN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UN W WN	_	_	_	_	_	CAN COMM CIRCUIT (U 1000)	_
IPDM E/R	No indication	_	UNKWN	UNK/WN	-	UNKWN	_	-	_	CAN COMM/CIRCUIT (U 100)	-



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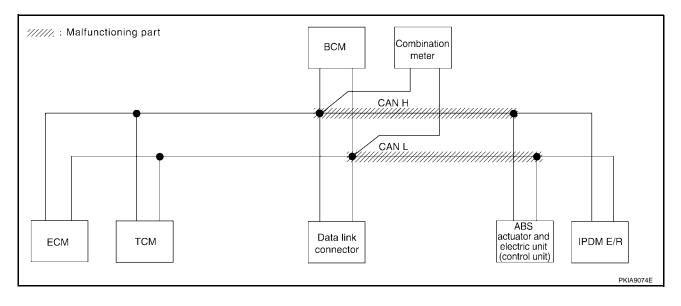
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Case 2

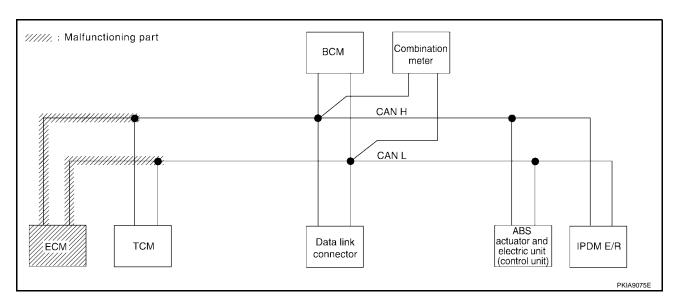
Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to LAN-175, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELE-DIAG	RESULTS
12220. 3101	diagnosis		diagnosis		ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	E/R		
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	_	UNI WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U N 01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UNK/WN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UN K WN	_	_	_	_	_	CAN COMM CIRCUIT (U 1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	-	CAN COMMICIRCUIT (UN00)	-



Case 3
Check ECM circuit. Refer to <u>LAN-176, "ECM Circuit Check"</u>.

			I	CAN		PPORT N					
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	E/R		
ENGINE	_	NG	UNIXWN	-	UNK WN	UNKWN	UNI W N	_	UNI WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	-	-	_	UNKWN	UNKWN	_	_	_
ВСМ	No indication	NG	UNKWN	UNION	-	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNWWN	-	_	_	-	_	CAN COMM CIRCUIT (U 100)	-
IPDM E/R	No indication	_	UNKWN	UNK WN	_	UNKWN	_	-	_	CAN COMM/CIRCUIT (U 100)	_



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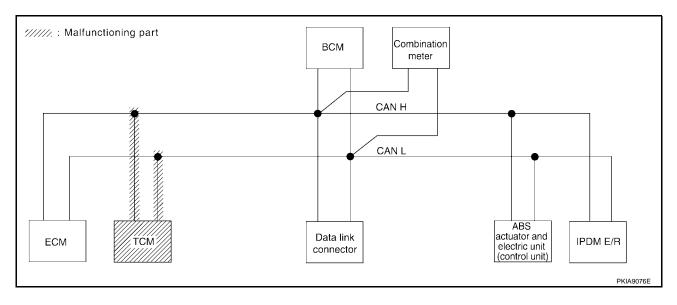
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Case 4
Check TCM circuit. Refer to <u>LAN-176, "TCM Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
3222010101	55.0011	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	E/R		
ENGINE	_	NG	UNKWN	1	UN K ∕WN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U N 00)	CAN COMM CIRCUI (U N 01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	_	-
BCM	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



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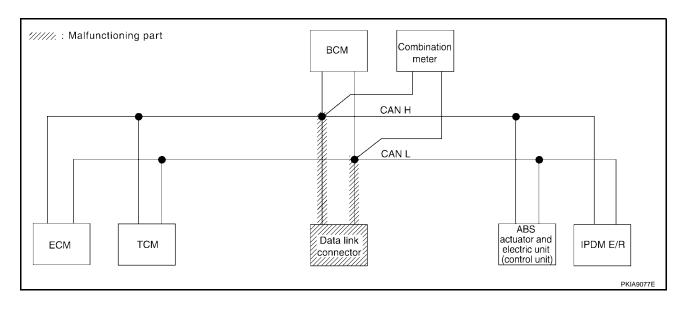
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Case 5

Check data link connector circuit. Refer to LAN-177, "Data Link Connector Circuit Check" .

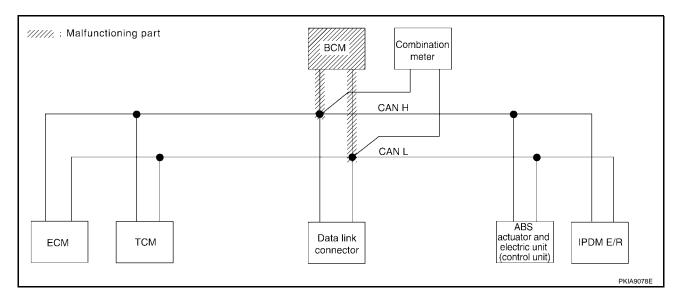
				CAN	DIAG SU	PPORT N	INTR		_		
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
32223.3.3.		diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLEI DINC	311200210
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	-	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	1	ı	_		CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



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Case 6
Check BCM circuit. Refer to <u>LAN-177, "BCM Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive (diagnosis			SELE-DIAG	RESULTS
322237 373		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	UN K WN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	-	-	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	_	CAN COMM CIRCUIT (U 100)	_



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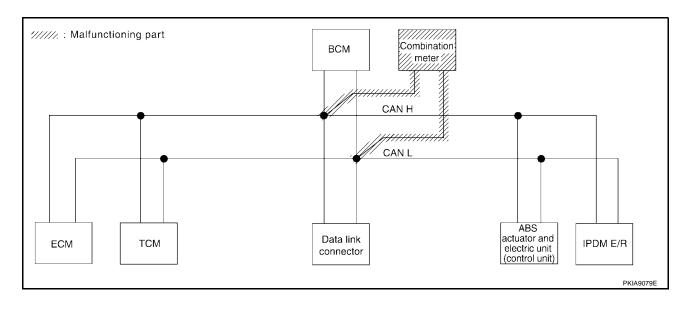
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Case 7

Check combination meter circuit. Refer to <u>LAN-178</u>, "Combination Meter Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
022201 0101	LIVI GOLGGII	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DIA	THEODEIG
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UN W WN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	-	UNKWN	_	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	_	CAN COMM CIRCUIT (U1000)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



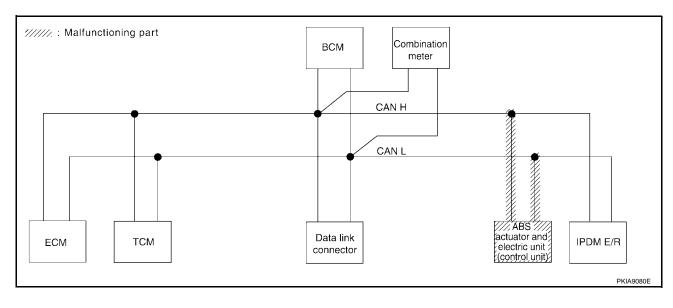
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Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-178</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

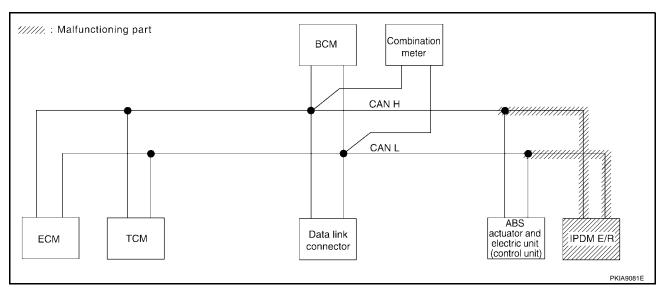
				CAN	DIAG SU	PPORT N	INTR		_		
SELECT SYST	FM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	3221 31/10	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	N≸	UNKWN	UN K ∕WN	_	_	_		_	CAN COMM CIRCUIT (UV00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	=	CAN COMM CIRCUIT (U1000)	_



Case 9

Check IPDM E/R circuit. Refer to LAN-179, "IPDM E/R Circuit Check" .

				ÇAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
022201 0101		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DINO	THEOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UN K ₩N	CAN COMM CIRCUIT (U1000)	
ABS	_	NG	UNKWN	UNKWN	_	_	ı	-	_	CAN COMM CIRCUIT (U1000)	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN		_	_	CAN COMM CIRCUIT (UX000)	-



Case 10
Check CAN communication circuit. Refer to <u>LAN-180</u>, "CAN Communication Circuit Check".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNI WN	_	UNI WN	UNI X WN	UNIWN	_	UNK WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	N	UNK WN	UNK WN	_	_	_	_	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	_	CAN COMM CIRCUIT (U 100)	_

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Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-183</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
022201 0101	ZIVI GOTGOTI	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DINC	TIEGGETG
ENGINE	_	NG	UNKWN	_	UNIWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U 100)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	-	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-183, "IPDM E/R Ignition Relay Circuit Check".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive of	diagnosis			SELE-DIAG	RESULTS
022201 0101		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLEI DINC	TILOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN		UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	_	_	_	_	_	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Circuit Check Between TCM and Data Link Connector

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1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

[CAN]

2. CHECK HARNESS FOR OPEN CIRCUIT

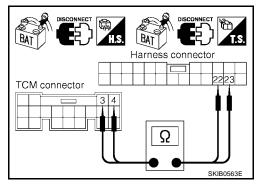
- 1. Disconnect TCM connector and harness connector F59.
- Check continuity between TCM harness connector F56 terminals 3 (L), 4 (P) and harness connector F59 terminals 23 (L), 22 (P).

3 (L) - 23 (L) 4 (P) - 22 (P) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



$3.\,$ check harness for open circuit

Check continuity between harness connector M71 terminals 23 (L), 22 (P) and data link connector M22 terminals 6 (L), 14 (P).

> 23 (L) - 6 (L) 22 (P) - 14 (P)

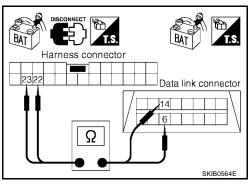
: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) UKS001SW

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector E28

OK or NG

OK >> GO TO 2.

>> Repair terminal or connector.

NG

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M7.
- Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M7 terminals 10 (L), 9 (P).

6 (L) - 10 (L)

: Continuity should exist.

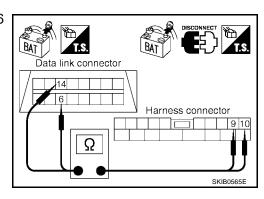
14 (P) - 9 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

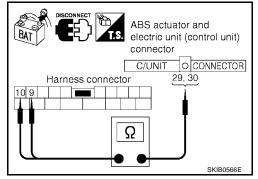
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E28 terminals 10 (L), 9 (P) and ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L), 29 (P).

10 (L) - 30 (L) : Continuity should exist. 9 (P) - 29 (P) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



UKS001SX

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

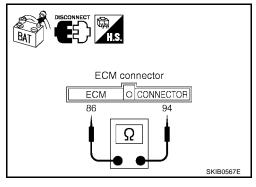
- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between harness connector F59 and ECM.



UKS001SY

TCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

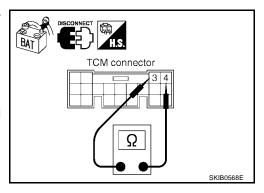
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F56 terminals 3 (L) and 4 (P).

3 (L) - 4 (P) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between harness connector F59 and TCM.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

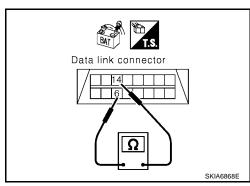
Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness between data link connector and combination meter.



BCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

Revision: March 2005

NG >> Repair terminal or connector.

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LAN-177 2005 Altima

2. CHECK HARNESS FOR OPEN CIRCUIT

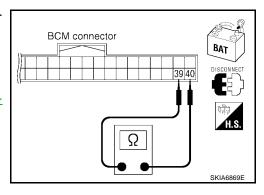
- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - **40** (P) : Approx. **54** - **66**
$$\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM".

NG >> Repair harness between data link connector and BCM.



UKS001T1

Combination Meter Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

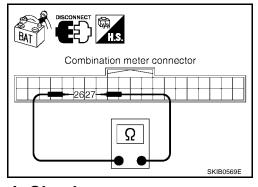
- Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

26 (L) - 27 (P) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace combination meter.

NG >> Repair harness between data link connector and combination meter.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001T2

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector. 1.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L) and 29 (P).

: Approx. 54 - 66 Ω

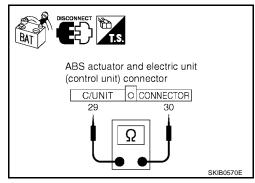
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between harness connector E28 and ABS actuator and electric unit (control unit).



UKS001T3

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

: Approx. 108 - 132 Ω

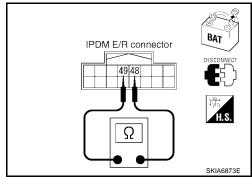
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between harness connector E28 and IPDM E/R.



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- **ECM**
- **TCM**
- **BCM**
- Combination meter
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
- ECM connector
- TCM connector
- Harness connector F59
- Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Continuity should not exist.

OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59

ECM connector ECM CONNECTOR SKIA6865E

3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

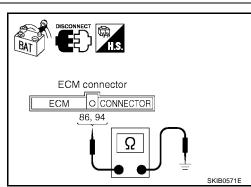
> 94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK NG

>> GO TO 4.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



UKS001T4

4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- BCM connector
- Combination meter connector
- Harness connector M7
- Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

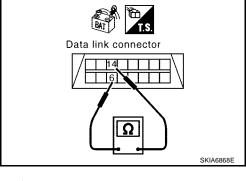
48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



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IPDM E/R connector

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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

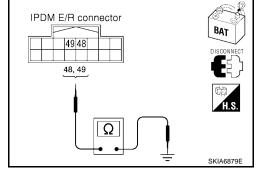
> : Continuity should not exist. 48 (L) - Ground 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- Remove ECM and IPDM E/R from vehicle.
- Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49. 3.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

LKIA0037E

ECM and IPDM E/R

9. CHECK SYMPTOM

- Full in described symptoms on the column "Symptom" in the check sheet.
- Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

CAN SYSTEM (TYPE 7)

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10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- TCM
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "<u>IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START</u>".

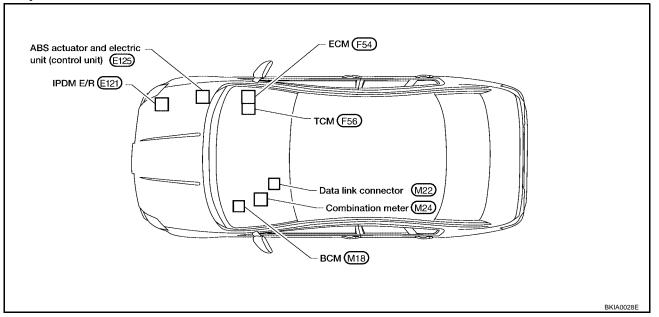
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CAN SYSTEM (TYPE 8)

PFP:23710

Component Parts and Harness Connector Location



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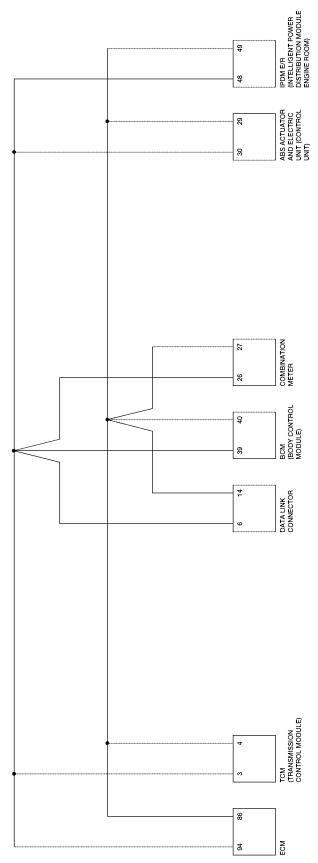
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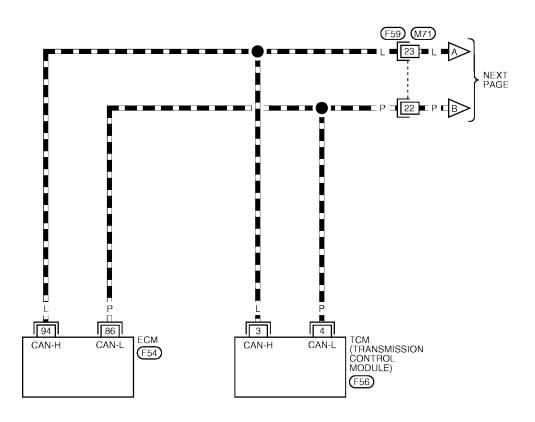
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Wiring Diagram - CAN -

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LAN-CAN-22

■□■ : DATA LINE



													(F59)
12	13	14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING. (F54), (F56) - ELECTRICAL UNITS

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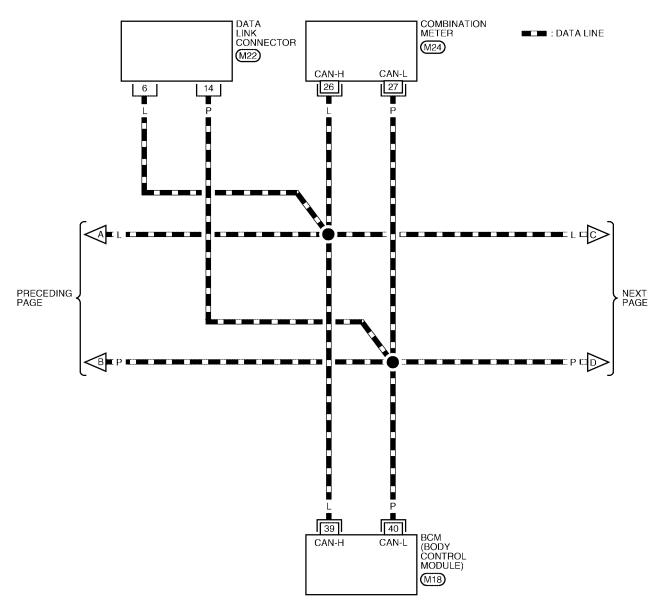
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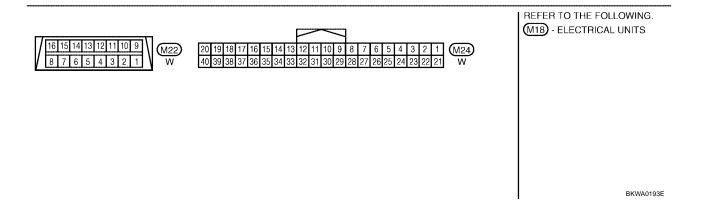
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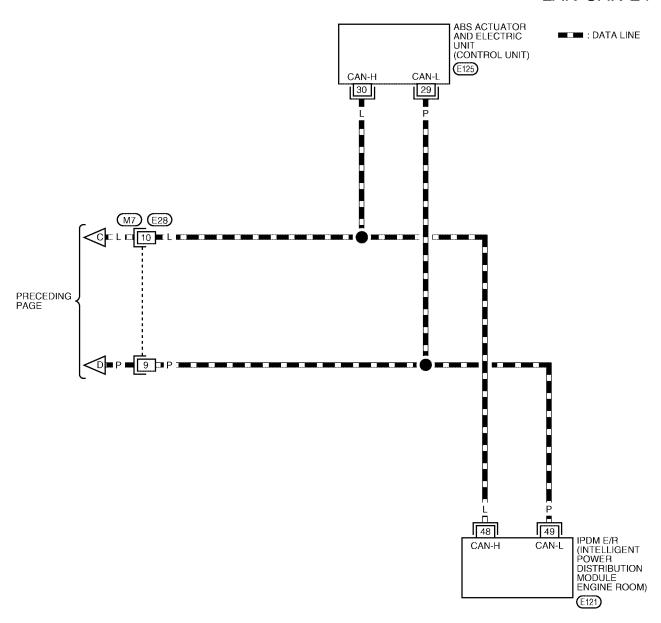
M

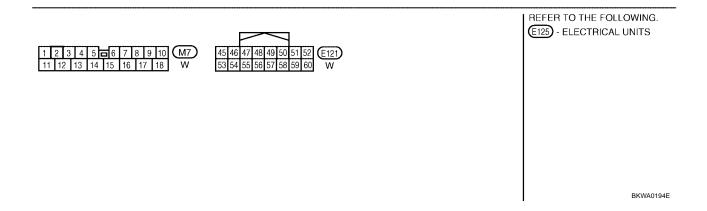
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LAN-CAN-24





CAN SYSTEM (TYPE 8)

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CHECK SHEET UKS001RP

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Check sheet tabl				C 4 4 ·	DIAC 0::	DDO DT :	ANITE		_	T	
			1	CAN		PPORT N Receive					
SELECT SYST		Initial diagnosis	Transmit diagnosis	ECM	TCM	BCM /SEC		VDC/TCS /ABS	IPDM E/R	SELF-DIAG	RESULTS
NGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	
СМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	=
BS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
Symptoms :											
_											
		s	Attach co	opy of YSTEM			SE	ttach cop LECT SY	oy of STEM		

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Attach copy of Attach copy of Attach copy of **ENGINE** TRANSMISSION BCM SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of ABS IPDM E/R SELF-DIAG RESULTS **SELF-DIAG RESULTS** Attach copy of Attach copy of Attach copy of ENGINE TRANSMISSION BCM CAN DIAG SUPPORT CAN DIAG SUPPORT **CAN DIAG SUPPORT** MNTR MNTR MNTR Attach copy of Attach copy of ABS IPDM E/R CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR PKIA8900E

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CHECK SHEET RESULTS (EXAMPLE)

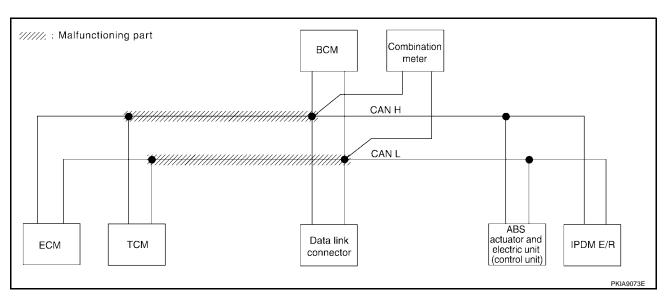
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-200</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
322201 0101	55.0011	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UN K WN	UNK/WN	UNK WN	UNION	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_
ВСМ	No indication	NG	UNKWN	UN ₩ WN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UN K WN	UNK WN	_	_	_	_	CAN COMM CIRCUIT (U 1000)	_
IPDM E/R	No indication	_	UNKWN	UN K ∕WN	_	UNKWN	_	-	_	CAN COMM/CIRCUIT (U 100)	_



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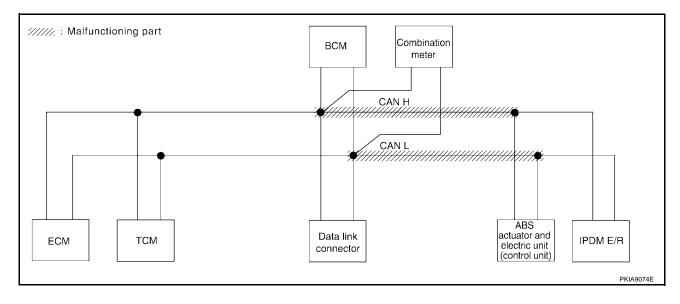
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-201</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELE-DIAG	RESULTS
02220.0.0.		diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNK WN	UNIVAN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	_	-	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UN ∳ WN	CAN COMM CIRCUIT (U1000)	_
ABS	-	NG	UNKWN	UN K WN	UNK WN	_	_	-	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMMICIRCUIT (U 100)	_



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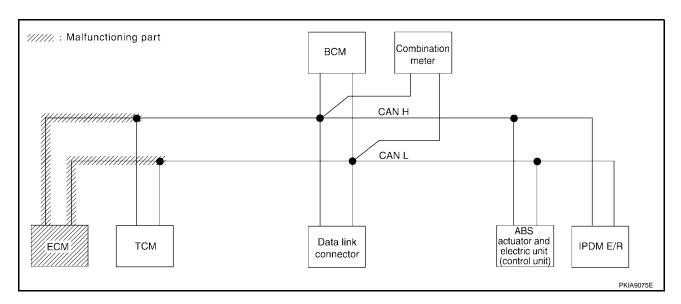
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Case 3
Check ECM circuit. Refer to LAN-202, "ECM Circuit Check".

				CAN	DIAG SU						
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
		diagnosis			ТСМ	BCM /SEC			IPDM E/R	522. 57.0.1.2002.0	
ENGINE	_	NG	UNION	-	UNK WN	UNKWN	UNI WN	UNKWN	UNI WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	_	1	_	UNKWN	UNKWN	_	_	_
ВСМ	No indication	NG	UNKWN	UNIVAN	1	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	=	_	CAN COMM CIRCUIT (U 1000)	_
IPDM E/R	No indication	_	UNKWN	UNK WN	-	UNKWN	_	_	_	CAN COMM/CIRCUIT (U M00)	_



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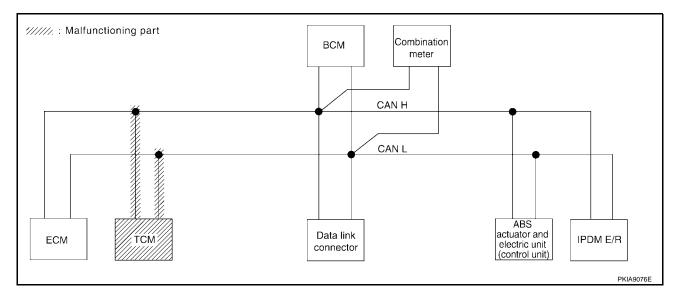
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Case 4
Check TCM circuit. Refer to <u>LAN-202, "TCM Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR					
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS	
		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		1.	
ENGINE	_	NG	UNKWN		UNK WN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U 1000)	CAN COMM CIRCUIT (UM01)	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_	_	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	-	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	UNKWN	UNI WN	_	_	_	_	CAN COMM CIRCUIT (U 100)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	-	



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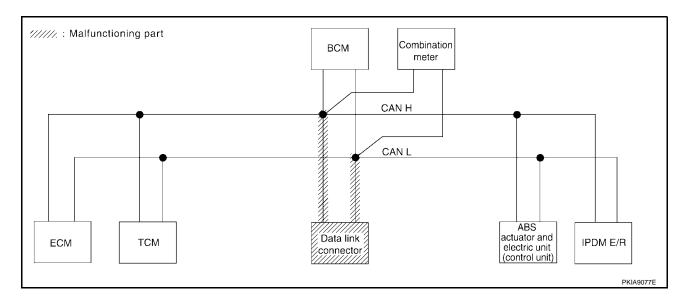
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Case 5

Check data link connector circuit. Refer to LAN-203, "Data Link Connector Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR		_		
SELECT SYST	EM coroon						diagnosis			SELE DIAC	RESULTS
SELECT STST	EIVI SCIEEII	Initial diagnosis	Transmit diagnosis		тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SELF-DIAC	A NESULIS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-		UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	UNKWN	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	-	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
											PKIA9011E



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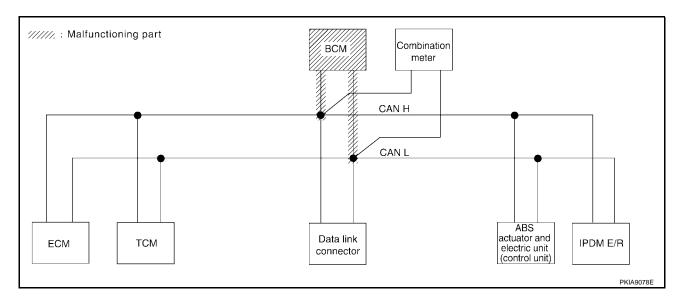
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Case 6
Check BCM circuit. Refer to <u>LAN-203, "BCM Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
022201 0101	2.11 0010011	diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U 1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
BCM	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNK WN	_	_	_	CAN COMM CIRCUIT (U 100)	_



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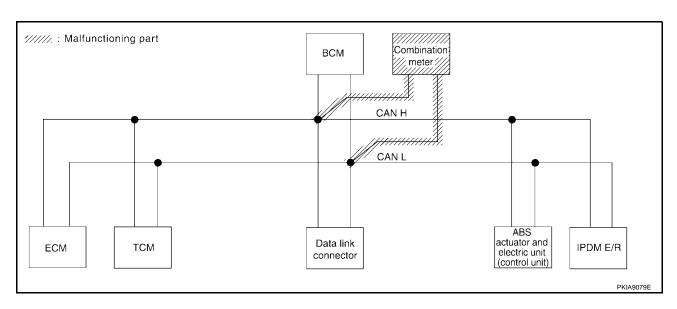
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Case 7

Check combination meter circuit. Refer to <u>LAN-204</u>, "Combination Meter Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR		_			
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS	
0222010101		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	∩ M MN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1		_	UNKWN	-	_	_	
ВСМ	No indication	NG	UNKWN	UNKWN	1	1	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	_	_	CAN COMM CIRCUIT (U1000)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_	



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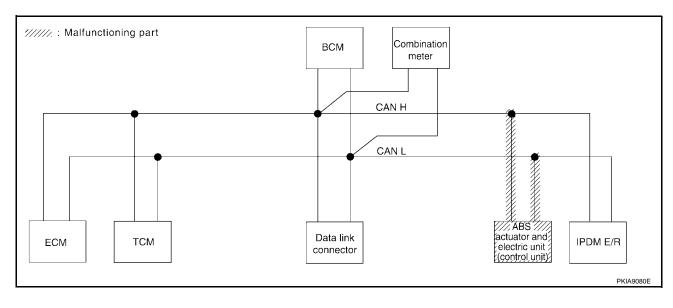
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Case 8

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-204</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

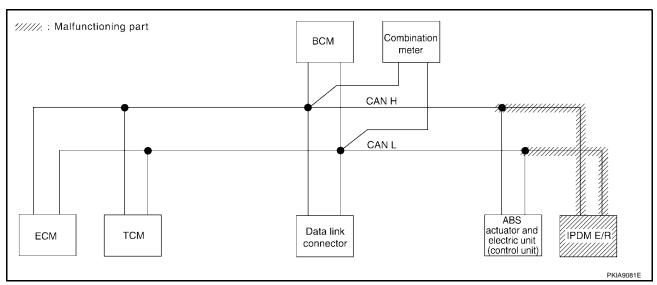
				CAN	DIAG SU	PPORT N	INTR					
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS	
J, J.J.		diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UN K WN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	UNKWN	_	_	_	_	
BCM	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	N	UNKWN	Π ΝΚ /WN	UNK WN	_	_	-	_	CAN COMM CIRCUIT (UN00)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN		UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_	



Case 9

Check IPDM E/R circuit. Refer to LAN-205, "IPDM E/R Circuit Check" .

	·			CAN	DIAG SU						
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		····
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	_	UNK WN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	=	_	CAN COMM CIRCUIT (U1000)	-
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (UN000)	_



Case 10

Check CAN communication circuit. Refer to LAN-206, "CAN Communication Circuit Check" .

SELECT SYSTEM screen				CAN	SELF-DIAG RESULTS							
		Initial	Transmit	Receive diagnosis								
		diagnosis		ECM	ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R			
ENGINE	_	NG	UNI WN	_	UNI WN	UNI X WN	UNI WN	UNI W N	UNK WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UM01)	
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	-	_	_	
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_	
ABS	_	N	UNK WN	UNK WN	UNI WN	_	_	_	_	CAN COMM CIRCUIT (U 100)	_	
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_	

Revision: March 2005 LAN-199 2005 Altima

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Case 11

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-209</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

	CAN DIAG SUPPORT MNTR Receive diagnosis										
SELECT SYST	CT SYSTEM screen		Transmit diagnosis		тсм	BCM /SEC		VDC/TCS /ABS	IPDM E/R	SELF-DIAG	RESULTS
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNI WN	UNKWN	CAN COMM CIRCUIT (U 1000)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_		_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	_	CAN COMM CIRCUIT (U1000)	_
						•					
											PKIA9017E

Case 12

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-209, "IPDM E/R Ignition Relay Circuit Check".

			CAN	SELF-DIAG RESULTS							
SELECT SYSTEM screen		Initial	Transmit			Receive diagnosis					
		diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SEE! BINGTIESSE!S	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	_	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Circuit Check Between TCM and Data Link Connector

UKS001SH

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

[CAN]

2. CHECK HARNESS FOR OPEN CIRCUIT

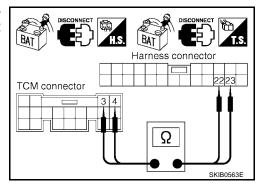
- 1. Disconnect TCM connector and harness connector F59.
- Check continuity between TCM harness connector F56 terminals 3 (L), 4 (P) and harness connector F59 terminals 23 (L), 22 (P).

3 (L) - 23 (L) 4 (P) - 22 (P) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



$3.\,$ check harness for open circuit

Check continuity between harness connector M71 terminals 23 (L), 22 (P) and data link connector M22 terminals 6 (L), 14 (P).

> 23 (L) - 6 (L) 22 (P) - 14 (P)

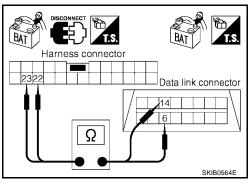
: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) UKS001SI

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector E28

OK >> GO TO 2.

>> Repair terminal or connector.

OK or NG

NG

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M7.
- Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M7 terminals 10 (L), 9 (P).

6 (L) - 10 (L)

: Continuity should exist.

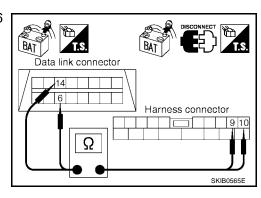
14 (P) - 9 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

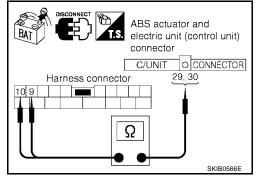
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E28 terminals 10 (L), 9 (P) and ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L), 29 (P).

10 (L) - 30 (L) : Continuity should exist. 9 (P) - 29 (P) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



UKS001SJ

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

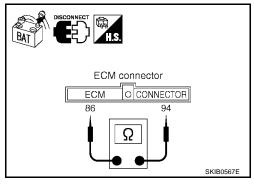
- Disconnect ECM connector.
- 2. Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between harness connector F59 and ECM.



UKS001SK

TCM Circuit Check

CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

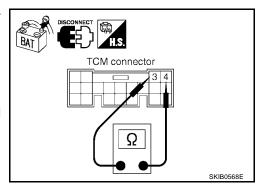
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F56 terminals 3 (L) and 4 (P).

3 (L) - 4 (P) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between harness connector F59 and TCM.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

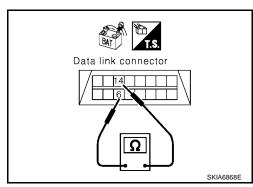
Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness between data link connector and combination meter.



BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

UKS001SM

2. CHECK HARNESS FOR OPEN CIRCUIT

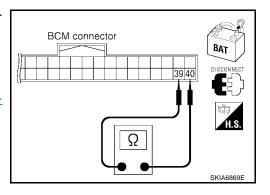
- 1. Disconnect BCM connector.
- Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

39 (L) - 40 (P) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM".

NG >> Repair harness between data link connector and BCM.



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Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

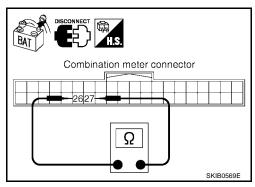
26 (L) - 27 (P) : Approx. 54 -
$$66\Omega$$

OK or NG

OK >> Replace combination meter.

>> Repair harness between data link connector and combi-NG

nation meter.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001SO

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L) and 29 (P).

: Approx. 54 - 66Ω

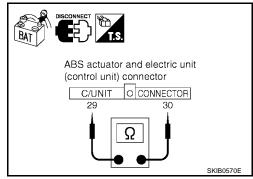
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

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>> Repair harness between harness connector E28 and ABS actuator and electric unit (control unit).



UKS001SP

IPDM E/R Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

: Approx. 108 - 132 Ω

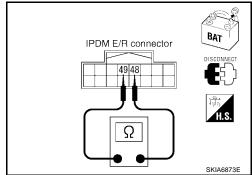
OK or NG

OK

>> Replace IPDM E/R.

NG

>> Repair harness between harness connector E28 and IPDM E/R.



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CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- ECM
- TCM
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect following connectors.
- ECM connector
- TCM connector
- Harness connector F59
- 2. Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Continuity should not exist.

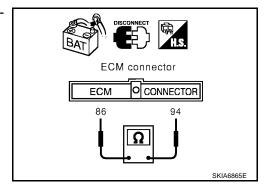
OK or NG

OK

>> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



3. CHECK HARNESS FOR SHORT CIRCUIT

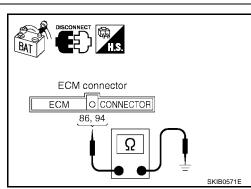
Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK NG >> GO TO 4.

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



4. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- BCM connector
- Combination meter connector
- Harness connector M7
- Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

> 6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

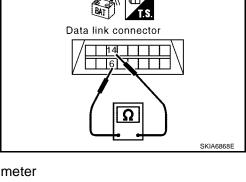
48 (L) - 49 (P) : Continuity should not exist.

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



Data link connector 14 6, 14 SKIA6874E

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IPDM E/R connector SKIA6873E

7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

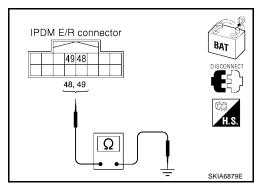
48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- 3. Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132

ECM and IPDM E/R

OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

9. CHECK SYMPTOM

- 1. Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

CAN SYSTEM (TYPE 8)

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10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- TCM
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

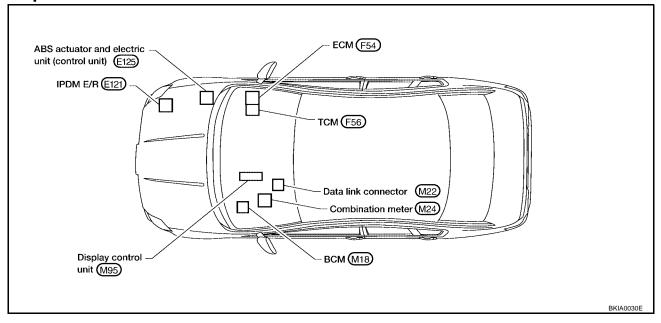
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CAN SYSTEM (TYPE 9)

PFP:23710

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Component Parts and Harness Connector Location



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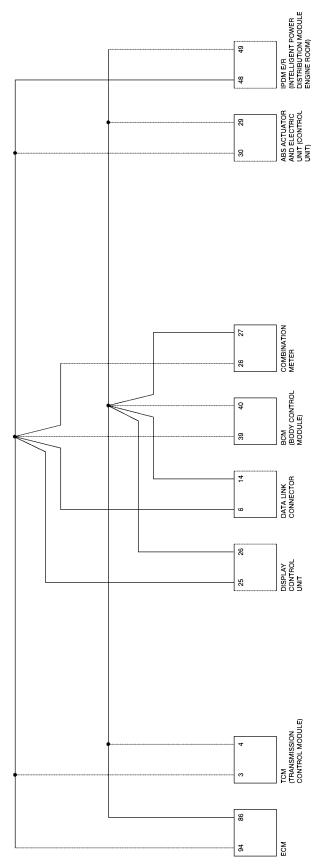
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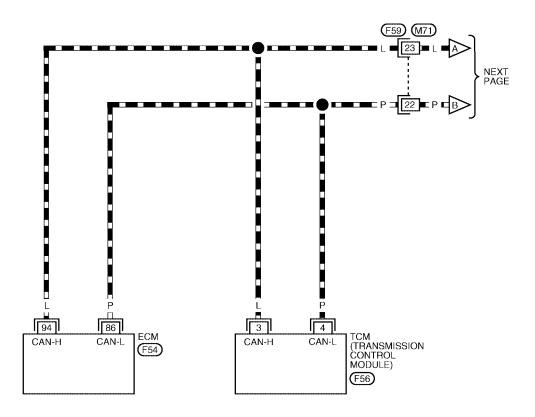
BKWA0082E

Wiring Diagram - CAN -

LIKS001RZ

LAN-CAN-25

: DATA LINE





REFER TO THE FOLLOWING. (F54), (F56) - ELECTRICAL UNITS

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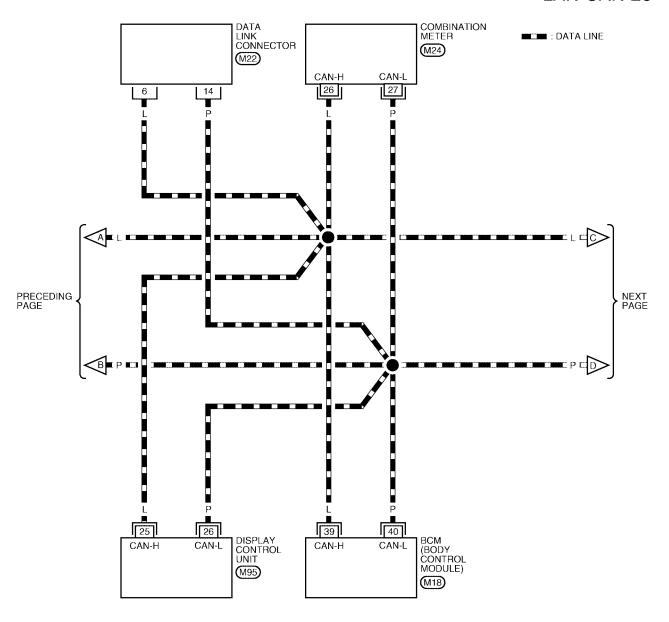
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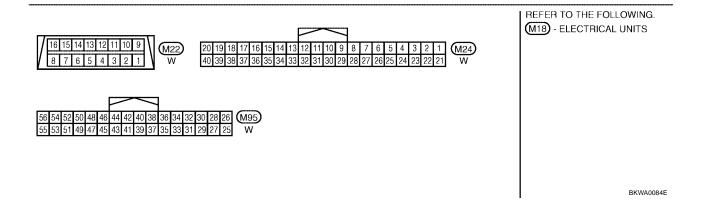
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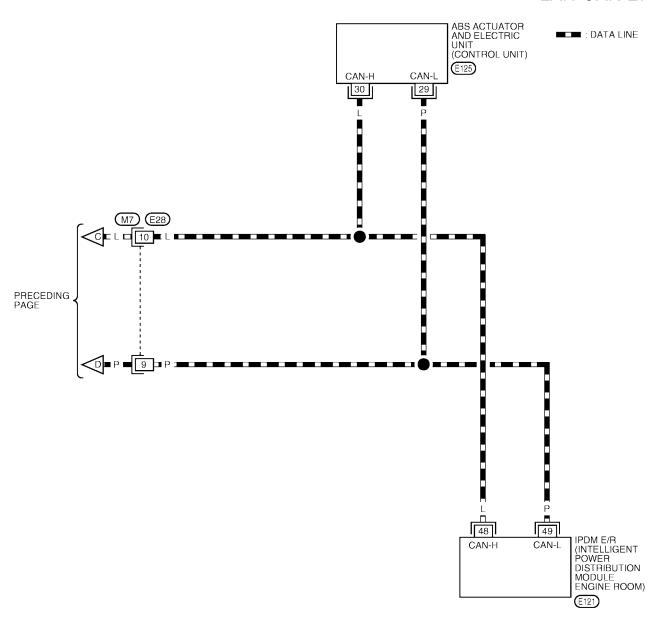
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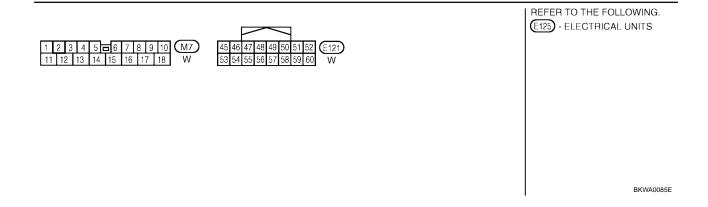
LAN-CAN-26





LAN-CAN-27





CAN SYSTEM (TYPE 9)

[CAN]

CHECK SHEET UKS001RO

NOTE:

SELECT SYSTEM screen				CAN							
		Initial	Transmit diagnosis			Receive	SELF-DIAG RESULTS				
				ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	SEEF-DIAG NESOETS	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
		•		•	•	•					
Symptoms :											
					_					_	

Attach copy of SELECT SYSTEM

Attach copy of SELECT SYSTEM

Display control unit Translation Sheet: Rewrite the following names, and put a check mark on the above check sheet table.										
Confirmation/Adjustment Display	Check sheet table Display	Confirmation/Adjustment Display	Check sheet table Display							
CAN COMM	Initial diagnosis	CAN CIRC 5	METER/M&A							
CAN CIRC 1	Transmit diagnosis	CAN CIRC 6	_							
CAN CIRC 2	BCM	CAN CIRC 7	IPDM E/R							
CAN CIRC 3	ECM	CAN CIRC 8	_							
CAN CIRC 4	_	CAN CIRC 9	_							

Attach copy of display control unit CAN DIAG SUPPORT MONITOR check sheet

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Attach copy of Attach copy of Attach copy of **ENGINE** TRANSMISSION BCM SELF-DIAG RESULTS SELF-DIAG RESULTS SELF-DIAG RESULTS Attach copy of Attach copy of ABS IPDM E/R SELF-DIAG RESULTS **SELF-DIAG RESULTS** Attach copy of Attach copy of Attach copy of ENGINE TRANSMISSION BCM CAN DIAG SUPPORT CAN DIAG SUPPORT **CAN DIAG SUPPORT** MNTR MNTR MNTR Attach copy of Attach copy of ABS IPDM E/R CAN DIAG SUPPORT CAN DIAG SUPPORT MNTR MNTR PKIA8900E

CHECK SHEET RESULTS (EXAMPLE)

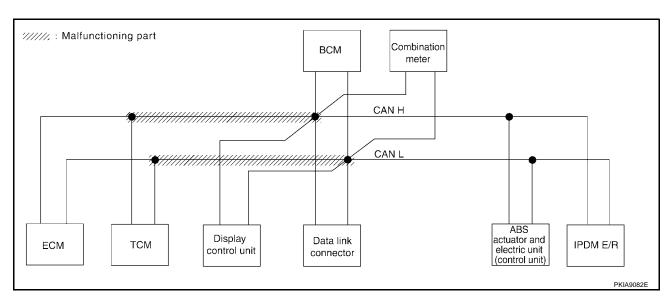
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-227</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
0222010101	ZIVI GOTGOTI	diagnosis		ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	E/D		
ENGINE	_	NG	UNKWN	ı	UNKWN	UNK/WN	∩ /K /WN	_	UNIVAN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-	_	_
Display control unit	_	NG	UNKWN	UNIXWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	-	-	_	_	_	CAN COMM CIRCUIT (U M00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	-	-	_	CAN COMMCIRCUIT (U 100)	_



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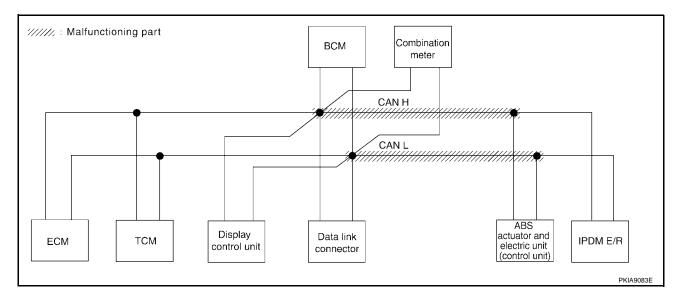
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-228</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis	,		SELF-DIAG	RESULTS
		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNMAN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	-	UN K WN	CAN COMM CIRCUIT (U1000)	_
ABS	=	NG	UNKWN	UNK WN	_	-	_	-	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMMCIRCUIT (U 100)	_



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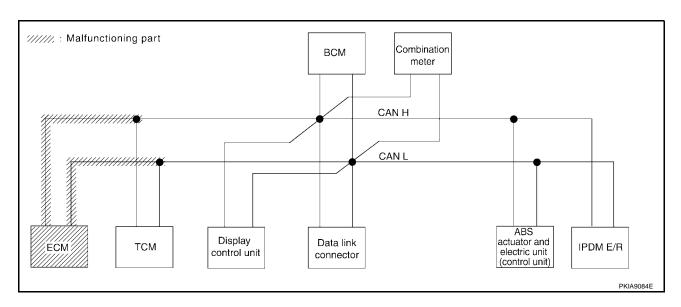
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Case 3
Check ECM circuit. Refer to LAN-229, "ECM Circuit Check".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
022201 0101	2111 0010011	diagnosis		l	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OZZI BINC	TILOGLIO
ENGINE	_	NG	UNKWN	_	UNK WN	U NK WN	UNI WN	_	UNIVAN	CAN COMM CIRCUIT (U M 00)	CAN COMM CIRCUIT (U 101)
TRANSMISSION	No indication	NG	UNKWN	_	-	_	UNKWN	UNKWN	_	_	_
Display control unit	_	NG	UNKWN	UNI X WN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNION		_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNI W N	_	-	_	_	_	CAN COMM CIRCUIT (U M 00)	_
IPDM E/R	No indication	_	UNKWN	UNI W N	-	UNKWN	_	-	_	CAN COMMCIRCUIT (U 100)	_
				· ·							

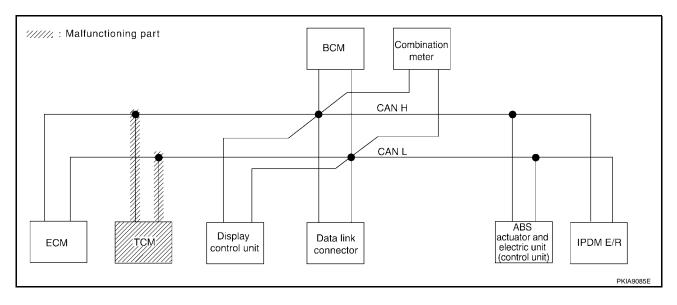


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Case 4
Check TCM circuit. Refer to <u>LAN-229</u>, "TCM Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
022201 0101	Zivi dordoni	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OZZI BINC	THEODETO
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNKWN	-	UNKWN	CAN COMM CIRCUIT (U 1000)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	_	_	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	-	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	-



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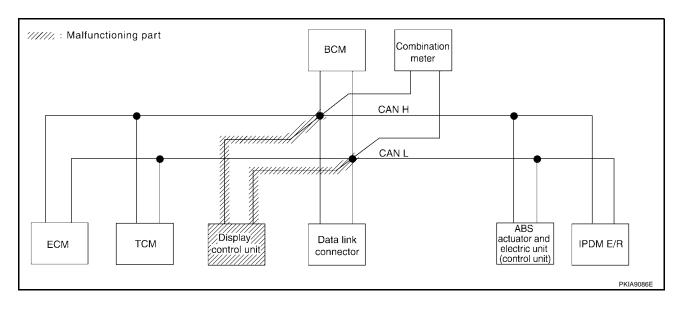
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Case 5
Check display control unit circuit. Refer to <u>LAN-230</u>, "<u>Display Control Unit Circuit Check"</u>.

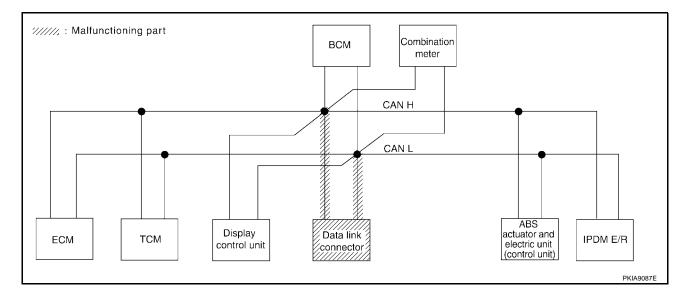
				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
022201 0101	2111 0010011	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DINO	THEOGETO
ENGINE	_	NG	UNKWN	1	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	1
Display control unit	_	NG	UNK WN	UNK WN	_	UN K WN	UNK WN	_	UNK WN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	_	CAN COMM CIRCUIT (U1000)	_



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Case 6
Check data link connector circuit. Refer to <u>LAN-230</u>, "<u>Data Link Connector Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELE-DIAG	RESULTS
OLLLOT GTOT	EN SOICEN	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	(U1000) CAN COMM CIRCUI (U1000) CAN COMM CIRCUI (U1000) CAN COMM CIRCUI	TILOGLIO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUI (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	-	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	-	-	_	CAN COMM CIRCUIT (U1000)	_



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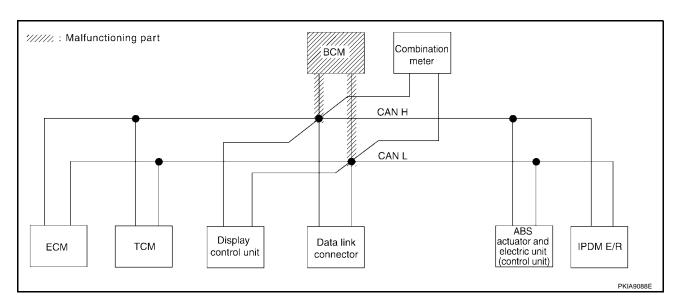
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Case 7
Check BCM circuit. Refer to <u>LAN-231, "BCM Circuit Check"</u>.

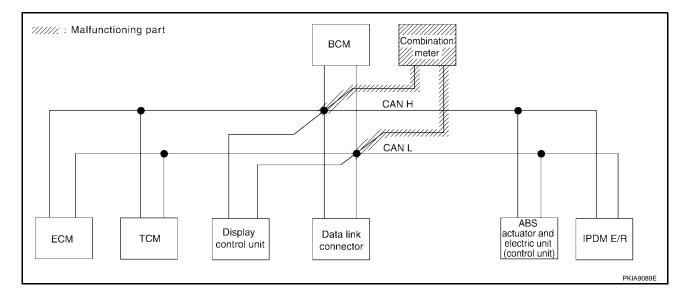
				CAN		PPORT N					
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
		diagnosis		l	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	3	
ENGINE	_	NG	UNKWN	_	UNKWN	UN K ₩N	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	Ω ΝΚ ⁄⁄⁄⁄⁄/	UNKWN	_	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	ı	UNKWN	_	_	-	CAN COMM CIRCUIT (U X 00)	_
											PKIA9025E



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Case 8
Check combination meter circuit. Refer to <u>LAN-231</u>, "Combination Meter Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
022201 0101	ZIVI GOLGGII	diagnosis		ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DINO	TILOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNIVON	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNION	-	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	_	UNK/WN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	-	-	_	CAN COMM CIRCUIT (U1000)	_



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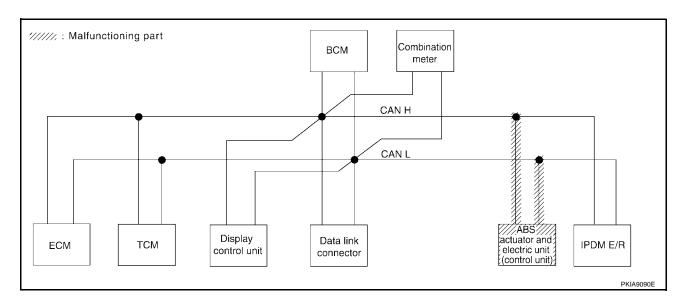
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Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-232</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

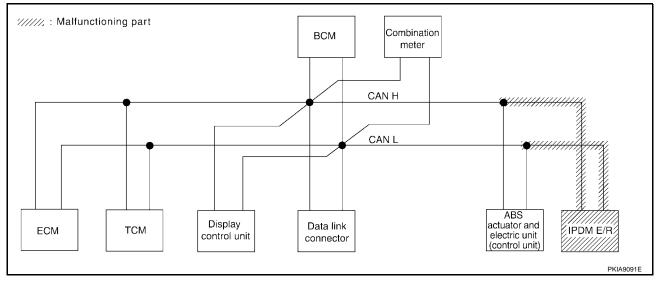
				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive o	diagnosis			SELF-DIAG	BESULTS
022201 0101	EN GOLGGII	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	(U1000) - CAN COMM CIRCUI (U1000) CAN COMM CIRCUI	TILOGLIO
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	_	_	_
Display control unit	_	NG	UNKWN	UNKWN	1	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	1	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	N	UNK WN	UN K ₩N	-	_	_	-	_	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



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Case 10 Check IPDM E/R circuit. Refer to <u>LAN-232</u>, "IPDM E/R Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
0222010101		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	-
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNK WN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	-	UNKWN	_	UN K ₩N	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	-	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	_	CAN COMM CIRCUIT (UN000)	_



Case 11
Check CAN communication circuit. Refer to <u>LAN-233</u>, "CAN Communication Circuit Check".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
0222010101		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DINO	111200210
ENGINE	_	NG	UNI WN	_	UNIKWN	UNKWN	UN Y WN	_	UN K ∕WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	_	_
Display control unit	_	NG	UNIMN	UN W WN	_	Π ΛΙΑ ΜΝ	∩ M MN	_	UNK WN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	N	UNKWN	UN K ₩N	_	_	_	_	_	CAN COMM CIRCUIT (U M 00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_

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Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to <u>LAN-236</u>, "IPDM E/R Ignition Relay <u>Circuit Check"</u>.

				CAN	DIAG SU	PPORT N					
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UN Y WN	UNKWN	UNKWN	-	UNKWN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	-	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	-	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	_	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	_	CAN COMM CIRCUIT (U1000)	_

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-236, "IPDM E/R Ignition Relay Circuit Check".

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
0222010101	ZIVI GOTGOTI		diagnosis		тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DIA	111200210
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	-	_	_	_	_	_	CAN COMM CIRCUIT (U N 00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Circuit Check Between TCM and Data Link Connector

UKS001S0

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

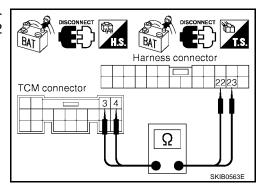
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect TCM connector and harness connector F59.
- Check continuity between TCM harness connector F56 terminals 3 (L), 4 (P) and harness connector F59 terminals 23 (L), 22 (P).

3 (L) - 23 (L) : Continuity should exist. 4 (P) - 22 (P) : Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



3. CHECK HARNESS FOR OPEN CIRCUIT

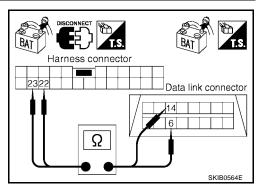
Check continuity between harness connector M71 terminals 23 (L), 22 (P) and data link connector M22 terminals 6 (L), 14 (P).

23 (L) - 6 (L) : Continuity should exist. 22 (P) - 14 (P) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector E28

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M7.
- 2. Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M7 terminals 10 (L), 9 (P).

6 (L) - 10 (L)

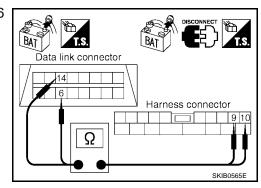
: Continuity should exist.

14 (P) - 9 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



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$3.\,$ check harness for open circuit

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check continuity between harness connector E28 terminals 10 (L), 9 (P) and ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L), 29 (P).

10 (L) - 30 (L) 9 (P) - 29 (P)

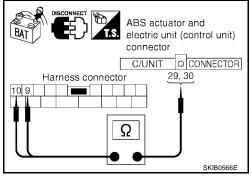
: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



UKS001S2

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect battery cable at negative terminal. 2.
- Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

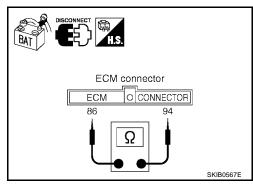
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ECM connector.
- Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

OK or NG

OK >> Replace ECM.

NG >> Repair harness between harness connector F59 and ECM.



UKS001S3

TCM Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

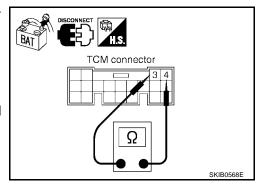
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F56 terminals 3 (L) and 4 (P).

3 (L) - 4 (P) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between harness connector F59 and TCM.



UKS001S4

Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

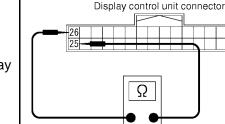
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M95 terminals 25 (L) and 26 (P).

OK or NG

OK >> Replace display control unit.

NG >> Repair harness between data link connector and display control unit.



UKS001S5

SKIA6884E

Data Link Connector Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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UKS001S6

2. CHECK HARNESS FOR OPEN CIRCUIT

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

: Approx. 54 - 66 Ω

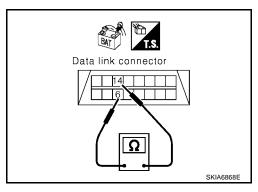
OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG

>> Repair harness between data link connector and combination meter.



BCM Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

2. Disconnect battery cable at negative terminal.

Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

Disconnect BCM connector.

2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

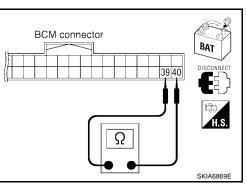
: Approx. 54 - 66 Ω

OK or NG

OK

>> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM".

NG >> Repair harness between data link connector and BCM.



Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

UKS001S7

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

: Approx. 54 - 66 Ω

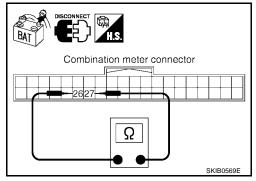
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001S8

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- 2. Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L) and 29 (P).

: Approx. 54 - 66 Ω

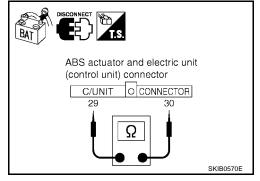
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between harness connector E28 and ABS actuator and electric unit (control unit).



UKS001S9

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

48 (L) - 49 (P)

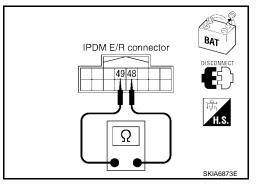
: Approx. 108 - 132 Ω

OK or NG

OK

>> Replace IPDM E/R.

NG >> Repair harness between harness connector E28 and IPDM E/R.



UKS001SA

CAN Communication Circuit Check

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- Disconnect battery cable at negative terminal. 2.
- Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- **ECM**
- **TCM**
- Display control unit
- **BCM**
- Combination meter
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

>> GO TO 2. OK

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

- 1. Disconnect following connectors.
- ECM connector
- TCM connector
- Harness connector F59
- Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P)

: Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59

ECM connector ECM CONNECTOR SKIA6865E

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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

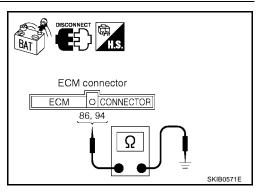
94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



4. CHECK HARNESS FOR SHORT CIRCUIT

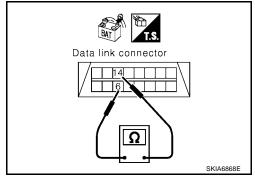
- 1. Disconnect following connectors.
- Display control unit connector
- BCM connector
- Combination meter connector
- Harness connector M7
- 2. Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



[CAN]

SKIA6874F

$5.\,$ check harness for short circuit

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

> 6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

NG

OK >> GO TO 6.

> >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between data link connector and harness connector M71
- Harness between data link connector and Display control unit
- Harness between data link connector and BCM
- Harness between data link connector and combination meter
- Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

- Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

OK or NG

>> GO TO 7. OK

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM

BAT IPDM E/R connector SKIA6873E

Data link connector

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6, 14,

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7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

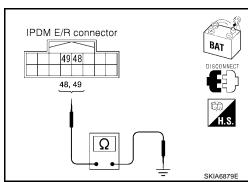
> 48 (L) - Ground : Continuity should not exist. 49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



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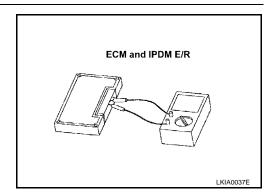
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8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- 3. Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

9. CHECK SYMPTOM

- 1. Full in described symptoms on the column "Symptom" in the check sheet.
- 2. Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

NG >> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced"

10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- 5. Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- 6. Make sure that the same symptom is reproduced.
- TCM
- Display control unit
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- ECM
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

UKS001SB

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to <u>PG-12</u>, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

CAN SYSTEM (TYPE 10)

ECM (F54)

Data link connector M22

Combination meter M24

TCM (F56)

BCM (M18)

[CAN]

CAN SYSTEM (TYPE 10)

ABS actuator and electric unit (control unit) (E125)

Display control

unit M95

PFP:23710

UKS001SC

Component Parts and Harness Connector Location

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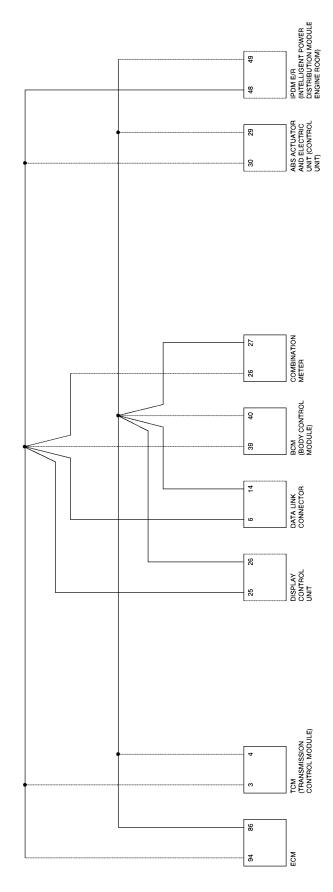
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Schematic UKS001R8



Wiring Diagram - CAN -

JKS001R9

LAN-CAN-28

: DATA LINE B

NEXT PAGE

NEXT PAGE

OCAN-H CAN-L CAN-L CAN-L CAN-L CONTROL MODULE)

F50 M71

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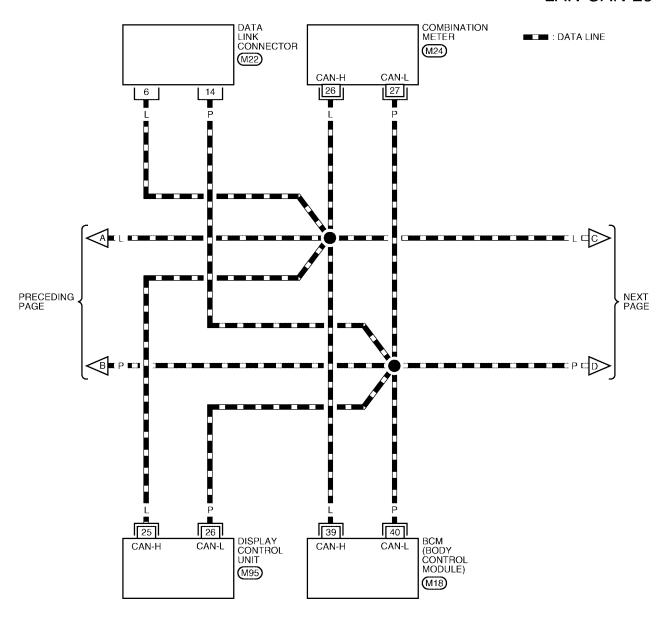
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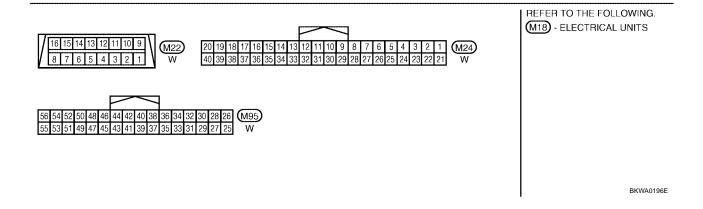
1	2	3	4	5	6	Ш	=	7	8	9	10	11	(F59)
12	13	14	15	16	17	18	19	20	21	22	23	24	W

REFER TO THE FOLLOWING.
(F54), (F56) - ELECTRICAL
UNITS

BKWA0195E

LAN-CAN-29





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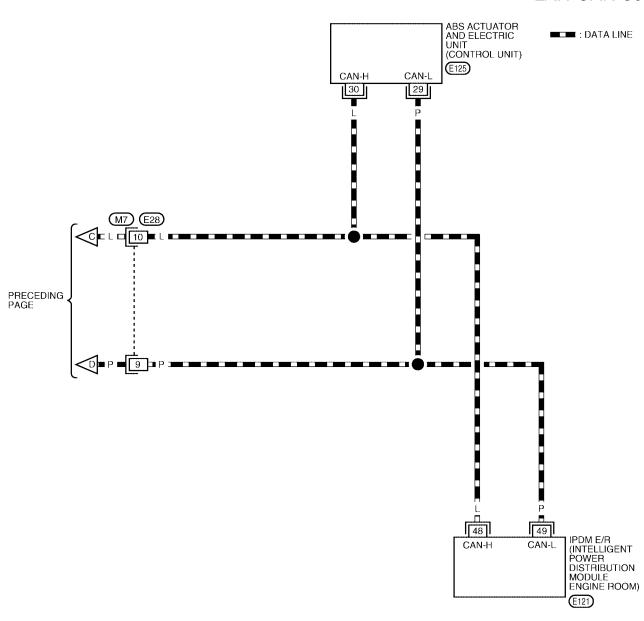
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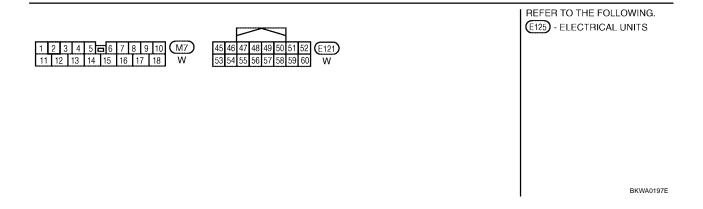
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CHECK SHEET

NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

				CAN	DIAG SU	PPORT N	INTR		<u>-</u>		
SELECT SYST	FM screen	Initial	Transmit			Receive				SELE-DIAG	RESULTS
011101		diagnosis		ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCU (U1001)
RANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
isplay control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
PDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_
		S	Attach co					Attach cop LECT SY			
Confirmation/Adju			Check she	eet table Il diagnos	Display	Confi	rmation/A	check m		-	et table. table Display R/M&A
CAN CIRC 1 CAN CIRC 2			Transr	mit diagno BCM	osis	_	CIRC 6 CIRC 7			IPDA	
CAN CIRC 2				ECM		_	CIRC 8			-	-
CAN CIRC 4		!		_		_	CIRC 9			-	_
			C.	AN DIAG		ch copy o control u	ınit	k sheet			

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Attach copy of ENGINE SELF-DIAG RESULTS	Attach copy of TRANSMISSION SELF-DIAG RESULTS	Attach copy of BCM SELF-DIAG RESULTS
Attach copy of ABS SELF-DIAG RESULTS	Attach copy of IPDM E/R SELF-DIAG RESULTS	
Attach copy of ENGINE CAN DIAG SUPPORT MNTR	Attach copy of TRANSMISSION CAN DIAG SUPPORT MNTR	Attach copy of BCM CAN DIAG SUPPORT MNTR
Attach copy of ABS CAN DIAG SUPPORT MNTR	Attach copy of IPDM E/R CAN DIAG SUPPORT MNTR	

CHECK SHEET RESULTS (EXAMPLE)

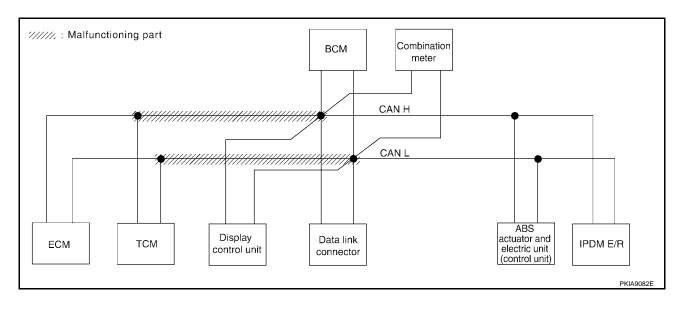
NOTE:

If a check mark is put on "NG" on "INITIAL DIAG (Initial diagnosis)", replace the control unit.

Case 1

Check harness between TCM and data link connector. Refer to <u>LAN-254</u>, "Circuit Check Between TCM and <u>Data Link Connector"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive o	diagnosis			SELE-DIAG	RESULTS
02220101011		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DIA	111200210
ENGINE	_	NG	UNKWN	_	UNKWN	UN K WN	∩ NK WN	UN K ₩N	UNIVAN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	-	UNKWN	UNKWN	-	_	_
Display control unit	_	NG	UNKWN	UNI W N	_	UNKWN	UNKWN	-	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNIONN	-	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UN W WN	UNK WN	_	_	_	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNK/WN	1	UNKWN		-	_	CAN COMM/CIRCUIT (U 100)	_



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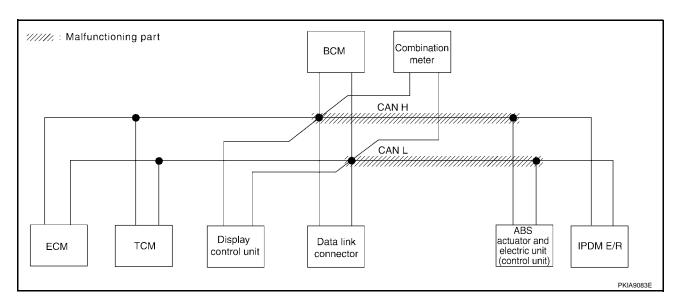
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Case 2

Check harness between data link connector and ABS actuator and electric unit (control unit). Refer to <u>LAN-255</u>, "Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit)".

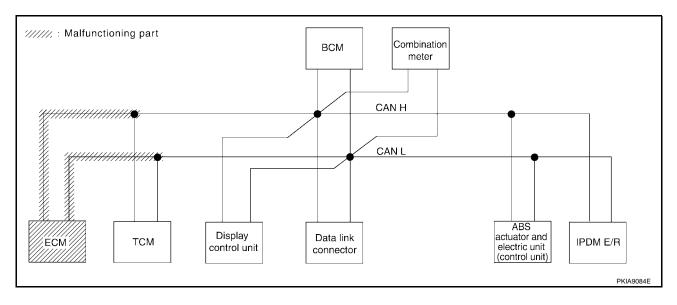
				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive o	diagnosis			SELF-DIAG	BESUITS
0222010101	ZIVI GOTGOTI	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNIVAN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U N 01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	-	_	_	_
Display control unit	_	NG	UNKWN	UNKWN	-	UNKWN	UNKWN	_	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	1	_	UNKWN	-	UN K WN	CAN COMM CIRCUIT (U1000)	-
ABS	-	NG	UNKWN	UN K WN	UNK WN	_	_	-	_	CAN COMM CIRCUIT (U 100)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_



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Case 3
Check ECM circuit. Refer to <u>LAN-256, "ECM Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
022201 0101	2111 0010011	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OZZI BINC	11120210
ENGINE	_	NG	UNKWN	_	UNK WN	UNKWN	UNI WN	UNK WN	UNIVAN	CAN COMM CIRCUIT (U N00)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	_	_	-	UNKWN	UNKWN	_	_	_
Display control unit	-	NG	UNKWN	UNIXWN	_	UNKWN	UNKWN	-	UNKWN	_	_
BCM	No indication	NG	UNKWN	UNI WN	_	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	-
ABS	_	NG	UNKWN	UNI W WN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U M 00)	_
IPDM E/R	No indication	_	UNKWN	UNI W N	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U 100)	_



CAN SYSTEM (TYPE 10)

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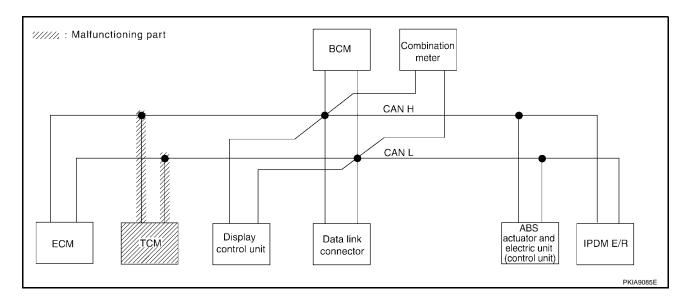
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Case 4
Check TCM circuit. Refer to <u>LAN-256</u>, "TCM Circuit Check" .

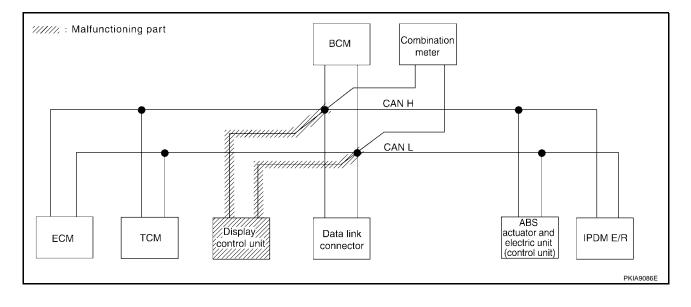
				CAN		PPORT N					
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELF-DIAG	RESULTS
		diagnosis		ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	3	
ENGINE	_	NG	UNKWN	1	UN K ₩N	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U N 00)	CAN COMM CIRCUIT (U M 01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	_	_
Display control unit	-	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNI W NN	-	_	_	_	CAN COMM CIRCUIT (U M 00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	_	CAN COMM CIRCUIT (U1000)	_
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Case 5
Check display control unit circuit. Refer to <u>LAN-257</u>, "<u>Display Control Unit Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	FM screen	Initial	Transmit			Receive of	diagnosis			SELE-DIAG	RESULTS
0222010101		diagnosis		ECM	тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLEI DING	111200210
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	ı	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNK WN	UNK WN	_	NNKWN	NIKWN	_	UNI WN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	1	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	-	_	CAN COMM CIRCUIT (U1000)	_



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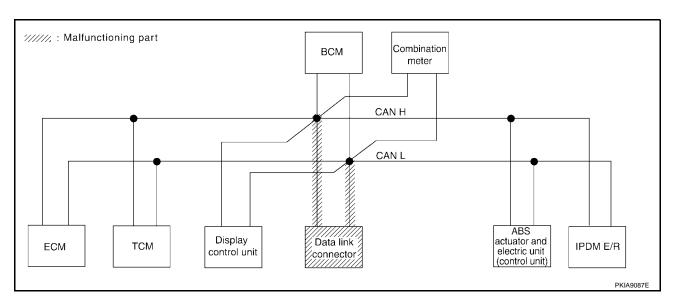
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Case 6

Check data link connector circuit. Refer to LAN-257, "Data Link Connector Circuit Check" .

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive of	diagnosis			SELF-DIAG	RESULTS
OLLLOT GTOT	EW Solden	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	GEE BING	THEODEIG
ENGINE	_	NG	UNKWN	ı	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	ı	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	1	-	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	-	-	-	CAN COMM CIRCUIT (U1000)	_



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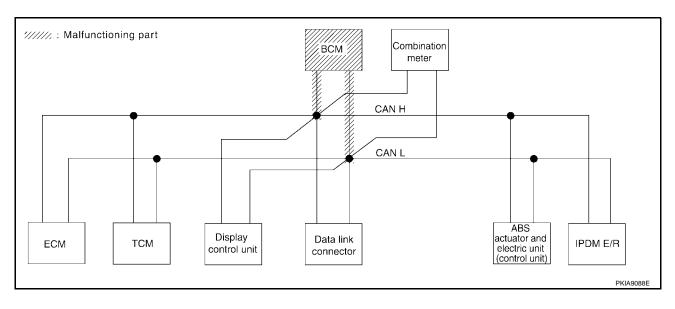
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Case 7
Check BCM circuit. Refer to <u>LAN-258, "BCM Circuit Check"</u>.

				CAN	DIAG SU	PPORT N	INTR				
SELECT SYST	EM screen	Initial	Transmit			Receive	diagnosis			SELE-DIAG	RESULTS
0222010101		diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	OLLI DINC	111200210
ENGINE	_	NG	UNKWN	_	UNKWN	UNK WN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	UNKWN	-	CAN COMM CIRCUIT (U1000)	_
Display control unit	-	NG	UNKWN	UNKWN	_	nuk w u	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	-	_	-	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UN W N	_	-	_	CAN COMM CIRCUIT (U 100)	_



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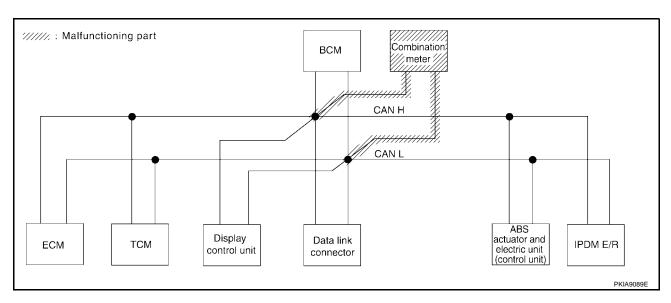
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Case 8
Check combination meter circuit. Refer to <u>LAN-258</u>, "Combination Meter Circuit Check" .

SELECT SYSTEM screen		CAN DIAG SUPPORT MNTR									
		Initial diagnosis	Transmit diagnosis	Receive diagnosis						SELF-DIAG RESULTS	
					тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	GEEL BING HEGGETO	THEOGETO
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNI WN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U M 01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	-	_	_	UNKWN	_	_	_
Display control unit	-	NG	UNKWN	UNKWN	_	UNKWN	UNI W WN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	_	CAN COMM CIRCUIT (U1000)	_



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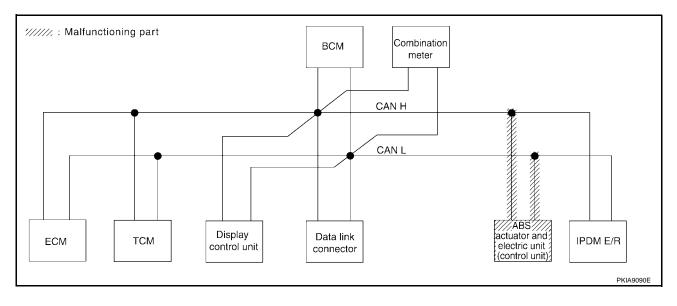
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Case 9

Check ABS actuator and electric unit (control unit) circuit. Refer to <u>LAN-259</u>, "ABS Actuator and Electric Unit (Control Unit) Circuit Check".

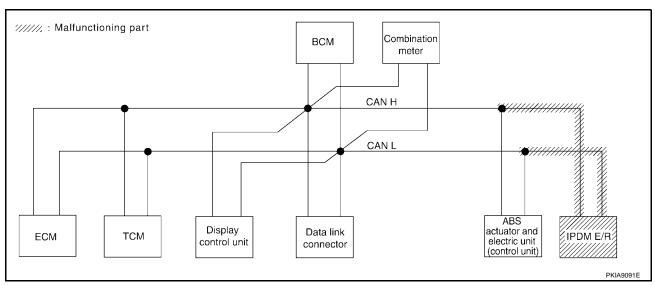
		CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial diagnosis	Transmit diagnosis	Receive diagnosis						SELF-DIAG RESULTS	
					тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UN ∳ WN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	-	_	_	-
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	-	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	=	NE	UNKWN	UN K ∕WN	UNK WN	-	-	-	_	CAN COMM CIRCUIT (UN00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_



Case 10

Check IPDM E/R circuit. Refer to LAN-259, "IPDM E/R Circuit Check" .

SELECT SYSTEM screen				CAN	DIAG SU	PPORT N	INTR				
		Initial	Transmit	Receive diagnosis						SELE-DIAG	RESULTS
022201 0101	Zivi dordori	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNK WN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (UN01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN		UNKWN	UNKWN	-	UNK WN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	_	UN K ₩N	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	-	_	CAN COMM CIRCUIT (UN000)	_



Case 11

Check CAN communication circuit. Refer to LAN-260, "CAN Communication Circuit Check" .

			CAN	CAN DIAG SUPPORT MNTR									
SELECT SYSTEM screen		Initial	Transmit	Receive diagnosis						SELF-DIAG	RESULTS		
OLLLOT GTOTI	LIVI SUICCII	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R				
ENGINE	_	NG	UNI WN	_	UNIVIN	UNI	∩ M MN	UNIMAN	UNK WN	CAN COMM CIRCUIT (UN00)	CAN COMM CIRCUIT (UM01)		
TRANSMISSION	No indication	NG	UNKWN	UNKWN	1	_	UNKWN	UNKWN	_	_	_		
Display control unit	-	NG	UNI WN	UNI W WN	_	n ı∧ γνν	Π Μ ΜΝ	_	UNK WN	_	_		
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_		
ABS	_	N	UNK/WN	UNK/WN	UNI	_	_	_	_	CAN COMM CIRCUIT (U 100)	_		
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (UV00)	_		

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Case 12

Check IPDM E/R ignition relay circuit continuously sticks "OFF". Refer to LAN-263, "IPDM E/R Ignition Relay Circuit Check".

SELECT SYSTEM screen				CAN							
		reen Initial	Transmit	Receive diagnosis						SELF-DIAG	RESULTS
	ZIVI GOTGOTI	diagnosis			ТСМ	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R		
ENGINE	_	NG	UNKWN	_	UN W WN	UNKWN	UNKWN	UN Y WN	UNKWN	CAN COMM CIRCUIT (U 100)	CAN COMM CIRCUIT (UM01)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	-	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
всм	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	UNKWN	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U1000)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	_	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Case 13

Check IPDM E/R ignition relay circuit continuously sticks "ON". Refer to LAN-263, "IPDM E/R Ignition Relay Circuit Check".

			CAN	DIAG SU	PPORT N	INTR					
SELECT SYST	Initial	Transmit	Receive diagnosis						SELE-DIAG	RESULTS	
022201 0101	Zivi dorodii	diagnosis			тсм	BCM /SEC	METER /M&A	VDC/TCS /ABS	IPDM E/R	34. 5.7.5.7.2002.0	
ENGINE	_	NG	UNKWN	_	UNKWN	UNKWN	UNKWN	UNKWN	UNKWN	CAN COMM CIRCUIT (U1000)	CAN COMM CIRCUIT (U1001)
TRANSMISSION	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	UNKWN	_	CAN COMM CIRCUIT (U1000)	_
Display control unit	_	NG	UNKWN	UNKWN	_	UNKWN	UNKWN	_	UNKWN	_	_
ВСМ	No indication	NG	UNKWN	UNKWN	_	_	UNKWN	_	UNKWN	CAN COMM CIRCUIT (U1000)	_
ABS	_	NG	UNKWN	-	UNKWN	_	_	_	_	CAN COMM CIRCUIT (U N 00)	_
IPDM E/R	No indication	_	UNKWN	UNKWN	-	UNKWN	_	_	_	CAN COMM CIRCUIT (U1000)	_

Circuit Check Between TCM and Data Link Connector

UKS001RB

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector F59
- Harness connector M71

OK or NG

OK >> GO TO 2.

[CAN]

2. CHECK HARNESS FOR OPEN CIRCUIT

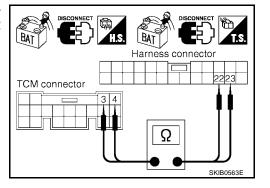
- 1. Disconnect TCM connector and harness connector F59.
- Check continuity between TCM harness connector F56 terminals 3 (L), 4 (P) and harness connector F59 terminals 23 (L), 22 (P).

3 (L) - 23 (L) 4 (P) - 22 (P) : Continuity should exist.

: Continuity should exist.

OK or NG

OK >> GO TO 3. NG >> Repair harness.



$3.\,$ check harness for open circuit

Check continuity between harness connector M71 terminals 23 (L), 22 (P) and data link connector M22 terminals 6 (L), 14 (P).

> 23 (L) - 6 (L) 22 (P) - 14 (P)

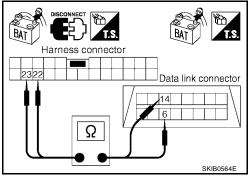
: Continuity should exist.

: Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



Circuit Check Between Data Link Connector and ABS Actuator and Electric Unit (Control Unit) UKS001RC

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check following terminals and connectors for damage, bend and loose connection (connector side and harness side).
- Harness connector M7
- Harness connector E28

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect harness connector M7.
- Check continuity between data link connector M22 terminals 6 (L), 14 (P) and harness connector M7 terminals 10 (L), 9 (P).

6 (L) - 10 (L)

: Continuity should exist.

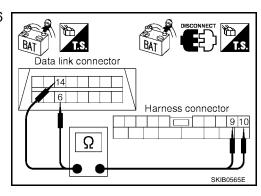
14 (P) - 9 (P)

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness.



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3. CHECK HARNESS FOR OPEN CIRCUIT

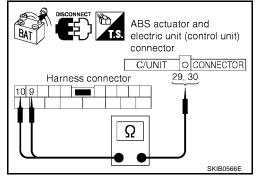
- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check continuity between harness connector E28 terminals 10 (L), 9 (P) and ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L), 29 (P).

10 (L) - 30 (L) : Continuity should exist. 9 (P) - 29 (P) : Continuity should exist.

OK or NG

OK >> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG >> Repair harness.



UKS001RD

ECM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ECM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

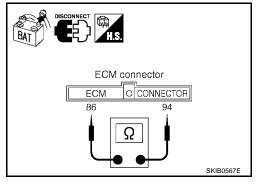
- Disconnect ECM connector.
- Check resistance between ECM harness connector F54 terminals 94 (L) and 86 (P).

94 (L) - 86 (P) : Approx. 108 - 132Ω

OK or NG

OK >> Replace ECM.

NG >> Repair harness between harness connector F59 and ECM.



UKS001RE

TCM Circuit Check

CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of TCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

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2. CHECK HARNESS FOR OPEN CIRCUIT

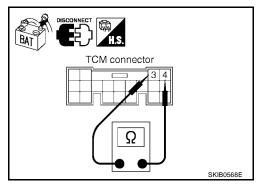
- 1. Disconnect TCM connector.
- 2. Check resistance between TCM harness connector F56 terminals 3 (L) and 4 (P).

3 (L) - 4 (P) : Approx.
$$54 - 66\Omega$$

OK or NG

OK >> Replace TCM.

NG >> Repair harness between harness connector F59 and TCM.



Display Control Unit Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- Disconnect battery cable at negative terminal. 2.
- 3. Check terminals and connector of display control unit for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

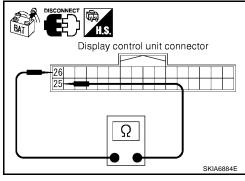
2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect display control unit connector.
- 2. Check resistance between display control unit harness connector M95 terminals 25 (L) and 26 (P).

OK or NG

OK >> Replace display control unit.

>> Repair harness between data link connector and display NG control unit.



Data Link Connector Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- Check terminals and connector of data link connector for damage, bend and loose connection (connector side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

UKS001RF

2. Check harness for open circuit

Check resistance between data link connector M22 terminals 6 (L) and 14 (P).

6 (L) - 14 (P) : Approx.
$$54 - 66\Omega$$

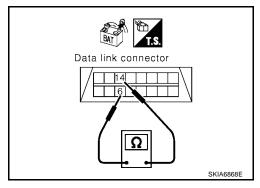
OK or NG

OK

>> Connect all the connectors and diagnose again. Refer to LAN-6, "TROUBLE DIAGNOSES WORK FLOW".

NG

>> Repair harness between data link connector and combination meter.



UKS001RH

BCM Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of BCM for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check resistance between BCM harness connector M18 terminals 39 (L) and 40 (P).

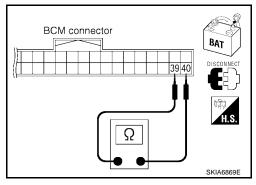
39 (L) - 40 (P) : Approx. **54 - 66**
$$\Omega$$

OK or NG

OK >

>> Replace BCM. Refer to <u>BCS-20, "Removal and Installation of BCM"</u>.

NG >> Repair harness between data link connector and BCM.



Combination Meter Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of combination meter for damage, bend and loose connection (meter side and harness side).

OK or NG

OK >> GO TO 2.

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2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check resistance between combination meter harness connector M24 terminals 26 (L) and 27 (P).

: Approx. 54 - 66Ω

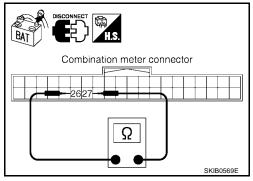
OK or NG

OK

>> Replace combination meter.

NG

>> Repair harness between data link connector and combination meter.



ABS Actuator and Electric Unit (Control Unit) Circuit Check

UKS001RJ

1. CHECK CONNECTOR

1. Turn ignition switch OFF.

- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of ABS actuator and electric unit (control unit) for damage, bend and loose connection (control unit side and harness side).

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR OPEN CIRCUIT

- 1. Disconnect ABS actuator and electric unit (control unit) connector.
- Check resistance between ABS actuator and electric unit (control unit) harness connector E125 terminals 30 (L) and 29 (P).

: Approx. 54 - 66 Ω

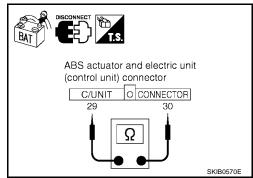
OK or NG

OK

>> Replace ABS actuator and electric unit (control unit).

NG

>> Repair harness between harness connector E28 and ABS actuator and electric unit (control unit).



UKS001RK

IPDM E/R Circuit Check

1. CHECK CONNECTOR

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check terminals and connector of IPDM E/R for damage, bend and loose connection (control module side and harness side).

OK or NG

OK >> GO TO 2.

2. CHECK HARNESS FOR OPEN CIRCUIT

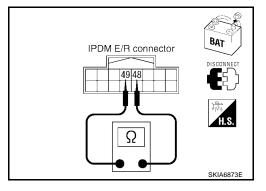
- 1. Disconnect IPDM E/R connector.
- 2. Check resistance between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

48 (L) - 49 (P) : Approx.
$$108 - 132\Omega$$

OK or NG

OK >> Replace IPDM E/R.

NG >> Repair harness between harness connector E28 and IPDM E/R.



UKS001RL

CAN Communication Circuit Check

1. CHECK CONNECTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Check following terminals and connectors for damage, bend and loose connection (control module side, control unit side, meter side, and harness side).
- ECM
- TCM
- Display control unit
- BCM
- Combination meter
- ABS actuator and electric unit (control unit)
- IPDM E/R
- Between ECM and IPDM E/R

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK HARNESS FOR SHORT CIRCUIT

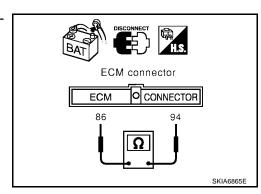
- 1. Disconnect following connectors.
- ECM connector
- TCM connector
- Harness connector F59
- 2. Check continuity between ECM harness connector F54 terminals 94 (L) and 86 (P).

OK or NG

OK >> GO TO 3.

NG >> Check th

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between ECM and harness connector F59
 - Harness between TCM and harness connector F59



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3. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between ECM harness connector F54 terminals 94 (L), 86 (P) and ground.

94 (L) - Ground : Continuity should not exist. 86 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 4.

NG >> Check the following harnesses. If any harness is damaged, repair the harness.

- Harness between ECM and harness connector F59
- Harness between TCM and harness connector F59

ECM connector ECM O CONNECTOR 86, 94 SKIB0671E

4. CHECK HARNESS FOR SHORT CIRCUIT

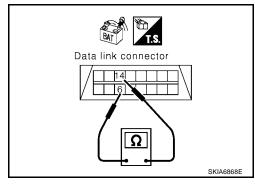
- 1. Disconnect following connectors.
- Display control unit connector
- BCM connector
- Combination meter connector
- Harness connector M7
- Check continuity between data link connector M22 terminals 6 (L) and 14 (P).

OK or NG

OK >> GO TO 5.

NG >> Check the

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7



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CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between data link connector M22 terminals 6 (L), 14 (P) and ground.

6 (L) - Ground : Continuity should not exist. 14 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between data link connector and harness connector M71
 - Harness between data link connector and Display control unit
 - Harness between data link connector and BCM
 - Harness between data link connector and combination meter
 - Harness between data link connector and harness connector M7

6. CHECK HARNESS FOR SHORT CIRCUIT

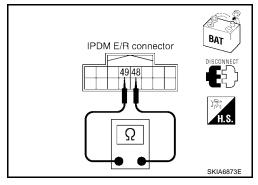
- 1. Disconnect ABS actuator and electric unit (control unit) connector and IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector E121 terminals 48 (L) and 49 (P).

OK or NG

OK >> GO TO 7.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



Data link connector

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6, 14

7. CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between IPDM E/R harness connector E121 terminals 48 (L), 49 (P) and ground.

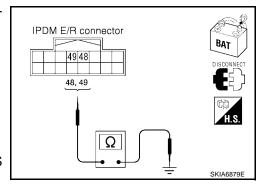
48 (L) - Ground : Continuity should not exist.
49 (P) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 8.

NG

- >> Check the following harnesses. If any harness is damaged, repair the harness.
 - Harness between harness connector E28 and ABS actuator and electric unit (control unit)
 - Harness between harness connector E28 and IPDM E/R



CAN SYSTEM (TYPE 10)

[CAN]

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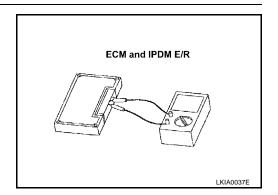
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8. ECM/IPDM E/R INTERNAL CIRCUIT INSPECTION

- 1. Remove ECM and IPDM E/R from vehicle.
- 2. Check resistance between ECM terminals 94 and 86.
- Check resistance between IPDM E/R terminals 48 and 49.

Unit	Terminal	Resistance value (Ω) (Approx.)
ECM	94 - 86	108 - 132
IPDM E/R	48 - 49	100 - 132



OK or NG

OK >> GO TO 9.

NG >> Replace ECM and/or IPDM E/R.

9. CHECK SYMPTOM

- Full in described symptoms on the column "Symptom" in the check sheet. 1.
- Connect all connectors, and then make sure that the symptom is reproduced.

OK or NG

OK >> GO TO 10.

>> Refer to LAN-14, "Example of Filling in Check Sheet When Initial Conditions Are Not Reproduced" NG

10. UNIT REPRODUCIBILITY INSPECTION

Perform the following procedure for each unit, and then perform reproducibility test.

- Turn ignition switch OFF.
- 2. Disconnect battery cable at negative terminal.
- 3. Disconnect the unit connector.
- 4. Connect battery cable at negative terminal.
- Make sure that the symptom filled in the "Symptom" of the check sheet is reproduced. (Do not confuse it with the symptom related to removed unit.)
- Make sure that the same symptom is reproduced.
- **TCM**
- Display control unit
- **BCM**
- Combination meter
- ABS actuator and electric unit (control unit)
- **ECM**
- IPDM E/R

Inspection results

Reproduced>>Install removed unit, and then check the other unit.

Not reproduced>>Replace removed unit.

IPDM E/R Ignition Relay Circuit Check

Check the following. If no malfunction is found, replace the IPDM E/R.

- IPDM E/R power supply circuit. Refer to PG-25, "IPDM E/R Power/Ground Circuit Inspection".
- Ignition power supply circuit. Refer to PG-12, "IGNITION POWER SUPPLY IGNITION SW. IN ON AND/OR START".

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